

FLIGHT

First Aero Weekly in the World.

Founder and Editor : STANLEY SPOONER.

A Journal devoted to the Interests, Practice and Progress of Aerial Locomotion and Transport.

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TO OUR READERS.

The Supply of "FLIGHT." Important Notice.

Order "FLIGHT" to be either delivered or reserved for you regularly.

As the demand for "FLIGHT" is so great each week, it is of the utmost importance that readers should place their orders *firmly* for copies of "FLIGHT" at the bookstalls, their newsagents, or direct from the publishers, at 44, St. Martin's Lane, W.C., if they wish to secure a copy every week and avoid disappointment. The stringent Government restrictions in regard to the supply of printing paper necessitates this precaution in order that only actual numbers required are printed, and all wastage by unsold copies may thereby be reduced to a minimum, if not eliminated.

THE PUBLISHERS.

EDITORIAL COMMENT.



ANY unbeliever in the reality of the command of the air being in the hands of Britain and her Allies, must indeed be despaired of, after the daily records of the wonderful work of our pilots which are issued officially, combined with the unstinted pæans of praise emanating from every imaginable source upon this and the other side of the world. Last week once again Mr. H. G. Wells repeated his admiration of the Allies' air-work, at the same time

that he entered the lists with General Brussiloff as prophet as to the duration of the war, Mr. Wells putting it at June next year—the Germans are to begin to squeal in November—and the General pinning his faith to August. And it is in a large measure the work in the air which encourages Mr. Wells to the earlier date. His reasons for this conviction are set out as follows :—

"I think so for a hundred reasons, but above all for these : The marvellous organisation of the French front, the mastery of the air which is assured to our aviators—I was witness of it, and I should rather say the exclusive possession of the air.

"Then the photographic marking by aeroplanes, in which the French take first rank. Lastly by your artillery fire, which demolishes methodically and mathematically the enemy batteries without fear of reprisals."

General Brussiloff is hardly so explicit, but then it would scarcely be politic for him to detail the reasons for his optimism as to August.

A much more elaborate and reasoned communication upon the same subject has just come to hand from the well-known correspondent of the *Chicago Daily News*, Mr. Edward Price Bell. In this he discloses a few facts of paramount interest which, although without any direct influence upon the war, would scarcely, except by running considerable risk of incurring dire penalties under the Defence of the Realm Act, be permitted to a British journalist. Mr. Bell opens with : "London miracles ? Of course they never happen. But so rapid and extensive has been the expansion of Britain's military air service during the war that it suggests the miraculous. In

the matter, indeed, there was a magician's wand; it was the wand of money and skill and labour. Men have had not only money, not only skill, but the will to work to the verge of exhaustion."

Here is, indeed, an acknowledgment from an outside critic of the magnificent all-round efforts which have characterised every factory undertaking aircraft work since the first day of hostilities. It is a tribute to the patriotic energy of master and man—not forgetting that the great factor "woman" is included in "man"—alike which has been such an outstanding feature throughout the entire industry.

Following his general praise, he proceeds to summarise our military progress from the very small beginnings. At the outbreak of war, he says, Britain's total fighting strength in the air consisted of six squadrons of active aeroplanes—80 in number—manned approximately by 250 officers and 1,000 men. To-day Britain counts her air squadrons by tens, her officers of the Royal Flying Corps by hundreds, her machines by thousands, and her air-mechanics by tens of thousands. Before the war the military wing of the aerial fighting forces of Britain regarded itself as fortunate if it obtained for its purpose an appropriation of £1,000,000. At the present the annual expenditure on the Flying Corps mounts into many millions of pounds. It is probable that the country's total investment in military aircraft is not short of some £38,000,000 or £40,000,000. It may be very considerably more. In August, 1914, the Royal Flying Corps found an adequate home in six or seven rooms in the War Office building in Whitehall. The service was controlled by what was called the Military Aeronautics Directorate. At the head of this was the Director, a Brigadier-General, who had a small staff. The rooms for officer occupancy were three or four, and those for the clerical staff two or three. Now the Royal Flying Corps occupies an immense building of its own, formerly De Keyser's Royal Hotel, Blackfriars. This structure contains 375 rooms, and the corps continues rapidly to grow.

Next, the authorities having in the earliest days realised what an extraordinary part the aeroplane was to play in the war, Mr. Bell continues that they instantly braced themselves for a great effort. They needed officers and men and many more machines. Without a day's loss of time the authorities decided upon an immediate 500 per cent. expansion. Aerodromes were dotted all over England and Scotland, located in large flat expanses without high objects, such as trees, chimneys, and telegraph poles. Here the officers and men get their training. At these aerodromes the British have developed the officer and mechanical talent now fighting and maintaining British aeroplanes in Flanders, France, Egypt, Salonica, Mesopotamia, India, and East Africa. Among scout-

ing and observing agencies the aeroplane has undisputed primacy. It ascertains not only the movements but the intentions of the enemy.

At present the Royal Flying Corps, in its magnificent building on the Victoria Embankment, is organised under a director-general, with two directors. One of its functions is described as that of "air organisation," and the other as that of "aircraft equipment." The Air Organisation Department is the super-brain—the creative brain—of the corps. It decides upon matters of policy, strategy, tactics, and the general design of aeroplanes. The Aircraft Equipment Department has control of the material supplied to it following policy decisions by the Air Organisation. The corps has sub-departments—for example, a large contract department, a works department, an inspection department. From top to bottom the Royal Flying Corps is manned by Britons, home or Colonial.

Mr. Bell then quotes an R.F.C. officer as authority in regard to the temporary hold which the Germans obtained in the air, and the almost immediate loss again of that command, through our irresistible efforts to become top dog once more and remain so, as we have, ever since. This same officer puts the reason for our position of ascendancy as follows:—

"Man for man, we undoubtedly are masters of the air on the West front. This fact I attribute to the mental and physical training we give our boys in England. Our youngest pilots have done wonderfully well. They learn quickly, are intensely keen, have great alertness of mind, act instinctively. We have found almost universally that men approaching 40, unless exceptions, have about reached the age limit for this business."

In conclusion the correspondent states that the British flying man is in the air every day between four and eight hours, constantly under fire. Ordinarily along the British front the flying men are in the air from two to three hours each day.

The author hits upon the basic reason for our superiority when he points out that our officers are always hunting for trouble above the German lines, never declining a combat, and fighting, however outnumbered. Altogether he calculates that up to the present British flying men on the Western front must have flown, entirely over the enemy's lines, much more than a million miles.

All this is very gratifying hearing from so unbiassed a source, and as there is much that we are not permitted to set out first hand, we have taken this opportunity of passing on to our readers the views of one more fortunately placed. Some day, no doubt, we may ourselves obtain opportunity for submitting a few facts without the intervention of an intermediary.



Mr. Churchill and the Hornets.

SPEAKING at Chelmsford last Saturday, Mr. Winston Churchill, after dealing with the Navy and the Army, said:—

"Then there is the air. And there, too, we have reason to be satisfied and proud. The reports from the Front are unanimous in testifying to the superiority which our airmen have obtained over the enemy in the field of battle. We

cannot but be struck by the fact that we are getting a greater mastery of the problem of dealing with the German airships than we have ever had before. We cannot but be struck by the fact that the hornets are learning to fight by night as well as by day; and you will wish me in your name to express the congratulations which we all feel, the pride we all feel, in that supreme act of new prowess of a single man, by which the young officer the other night sent to its doom one of these accursed engines of destruction."

Air Raids and Expectations.



Drawn by Will Dyson and reproduced by courtesy of the "Daily Chronicle."

WILHELM (to Count Zeppelin): "Ah, Zeppelin, we started air raids to break the spirit of the British—and we have to continue them to keep up the spirit of the Germans!"

The British Air Service

"PER ARDUA AD ASTRA"

Under this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

THE following appeared among the Admiralty announcements of September 5th:—

The under-mentioned have been entered as Probationary Flight Sub-Lieutenants (Temporary), seniority as follows, and all appointed to "President," additional, for R.N.A.S.: H. H. Booth, Aug. 8th; N. H. Woodhead and C. H. Pownall; Sept. 10th.

The following appeared among the Admiralty announcements of September 6th:—

Sub-Lieutenant (Temporary): H. F. Stackard (R.N.V.R.) entered as Probationary Flight Officer (Temporary), seniority Sept. 10th, and appointed to "President," additional, for R.N.A.S. The under-mentioned have been entered as Probationary Flight Officers (Temporary), seniority Sept. 10th and all appointed to "President," additional, for R.N.A.S.: F. Blackburn, R. H. Catleugh, L. C. Beaver, J. B. Holden, R. H. Seed, C. L. Young, A. F. Cressall, M. W. W. Eppstein, L. C. G. M. le Champion, and F. H. Pratchett.

The following appeared among the Admiralty announcements of September 8th:—

Temporary Sub-Lieut. (R.N.V.R.) W. R. D. Acland entered as Probationary Flight Officer for temporary service and appointed to the "President," additional, for R.N.A.S., to date Sept. 10th; also C. M. R. Prewett, to date Sept. 17th.

The following have been granted temporary commissions as Sub-Lieutenants (R.N.V.R.), and appointed to the "President," additional, for R.N.A.S., all to date Sept. 7th: J. T. Matthews, R. Hollis and W. B. Daniels.

Royal Flying Corps (Military Wing).

The following appeared in the *London Gazette* of September 5th:—

Deputy Assistant Director of Aviation.—Major N. D. K. MacEwen, Arg. and Suth'd Highrs., vice Capt. P. W. L. Broke-Smith, R.E.; Aug. 16th, 1916.

Flight-Commanders.—Capt. R. W. Bruce, Canadian General List, from a Balloon Officer; Aug. 8th, 1916. Temporary Lieut. E. B. Cowell, General List, from a Balloon Officer, and to be Temporary Captain whilst so employed; Aug. 20th, 1916. Lieut. (Temporary Capt.) C. H. Pixton, Special Reserve, from a Flying Officer, and to retain his temporary rank whilst so employed; Aug. 23rd, 1916. Capt. A. C. Bolton, R. Sc. Fus., from a Flying Officer; Aug. 24th, 1916.

Flying Officers.—Aug. 12th, 1916: Temporary Lieut. H. V. Stammers, General List, from a Flying Officer (Observer); Lieut. A. F. Baker, D. of Corn. L.I., Special Reserve, from a Flying Officer (Observer); Lieut. D. R. Gawler, R. Scots, Special Reserve, and to be seconded; Lieut. G. A. Thompson, Canadian Local Forces; Second Lieut. (Temporary Lieut.) H. Hemming, Worc. R., to relinquish his temporary rank and to be seconded; Temporary Second Lieut. H. A. Arbuthnot, 11th Res. Regt. of Cav., and to be transferred to the General List; Second Lieut. A. N. Bengé, Special Reserve; Temporary Second Lieut. L. E. J. Lonnen, General List; Second Lieut. F. G. Garratt, Special Reserve. Aug. 13th, 1916: Temporary Second Lieut. H. F. C. Cannell, R.E., and to be transferred to the General List; Second Lieut. G. T. R. Hill, Special Reserve.

Flying Officers (Observers).—Temporary Lieut. A. N. Solly, Manch. R., and to be transferred to the General List; July 27th, 1916. Temporary Second Lieut. H. F. Alton, General List; Aug. 17th, 1916.

Assistant Equipment Officers.—Second Lieutenants, Special Reserve: A. L. Butcher; July 16th, 1916. A. K. H. Maitland; Aug. 7th, 1916. F. E. Pike; Aug. 8th, 1916.

Memoranda.—To be Temporary Lieutenants whilst serving with R.F.C.:—Aug. 1st, 1916: Second Lieutenants: K. L. Gopsill, E. Surr. R., Supplementary List, Special Reserve; F. R. Hardie, 3rd Hrs.; D. S. Cairnes, Rif. Brig.; R. J. Lowcock, Notts and Derby R.; A. Burbury, Yorks R.; and F. D. Pemberton, R.A. Second Lieutenants, Special Reserve: B. B. Toms, R. War. R.; T. Q. Studd, Devon R.; E. C. Colman, Wilts R.; and K. J. B. Munro, Devon R. Second

Lieutenants (on probation), Special Reserve: A. H. Gibson, Essex R.; G. Leckie, R.G.A.; and L. D. Baker, R. Dub. Fus. Temporary Second Lieutenants: R. Addenbrooke-Prout, R.A.; W. P. M. Newman, R.A.; and T. McK. Hughes, K. R. Rif. C. Temporary Second Lieutenants, General List: L. C. Drenon, J. R. Allan and G. E. L. Woodhouse. Temporary Second Lieutenants, and to be transferred to General List: W. G. Warn, R. Suss. R.; F. T. Bridger, K. O. Sco. Bord.; H. S. Paynter, E. Surr. R.; H. C. Mulock, S. Staff. R.; C. A. F. Brown, W. York. R.; J. P. Colin, Midd'x R.; and R. A. Cresswell, Oxf. and Bucks L.I.

To be Temporary Second Lieutenants for duty with R.F.C.: Aug. 15th, 1916: Corpl. E. C. Goldsworthy, from P.P.C.L.I.; Pte. C. R. H. Trevor, from Inns of Court O.T.C.; Pte. J. J. Paine, from Inns of Court O.T.C.; Pte. W. Selwyn, from Inns of Court O.T.C.; Aug. 19th, 1916. Sergt. H. P. Solomon, from New Zealand Exp. Force; and Pte. C. J. S. Dearlove, from R. Fus.; Aug. 21st, 1916. Aug. 24th, 1916: Sergt. J. S. Black and Sergt.-Major F. J. Martel, from Canadian Exp. Force; and Corpl. T. B. Tully, from Inns of Court O.T.C.; Aug. 24th, 1916. L.-Sergt. W. A. Amor, from H.A.C. (T.F.); Sergt. P. G. Burnes, from Inns of Court O.T.C.; Corpl. C. H. Campbell, from Australian Imp. Force; Pte. J. A. Davy, from Suff. Yeo. (T.F.); Sergt. F. Matthews, from R. Fus.; Staff-Sergt. D. Nelson, from New Zealand Exp. Force; Pte. H. W. Piper, from Lond. R. (T.F.); Corpl. S. G. Robinson, from Australian Imp. Force; Staff-Sergt.-Major M. A. White, from New Zealand Exp. Force; Pte. W. R. G. Wickham, from R. Fus.; Sergt. J. E. Hunt, from New Zealand Exp. Force; Pte. W. G. Cowie, from Inns of Court O.T.C.; and Corpl. J. C. Cantrill, from Manch. Univ. O.T.C.; Aug. 28th, 1916. Corpl. J. W. Van Alstyne, from Canadian Exp. Force; Sergt. H. M. D. Walker and Corpl. C. B. Fenton, from Australian Imp. Force; Pte. H. P. Rickard, from Canadian Exp. Force; and Acting Corpl. W. R. K. Skinner, from R.F.C.; Sept. 4th, 1916.

Supplementary to Regular Corps.—Lieut. L. F. Page is placed on temporary retired pay; Sept. 6th, 1916.

Second Lieutenants (on probation) confirmed in their rank: L. L. M. Evans, H. Slingsby, A. N. Bengé, F. G. Garratt, G. T. R. Hill, S. Wilkinson, A. D. Pocock, F. E. Pike, O. G. Thomas, P. M. E. Impey, E. E. Robb, H. Loeffler, W. T. Hall, G. Craig, H. E. R. Fitchat, H. R. Brutey, L. V. Hirst, W. B. Brett, E. E. E. Pope, O. Lindquist, A. L. Butcher, C. L. L. C. Brock, D. A. Macneill, J. R. Verel.

A. K. H. Maitland to be Second Lieutenant; July 11th, 1916.

To be Second Lieutenants (on probation):—Aug. 19th, 1916: A. S. Turner, T. J. Owen, J. S. Brydon, W. C. Matthews. Aug. 24th, 1916: D. F. Stiven, J. A. W. Armstrong, R. W. Callan, C. C. Gardner. Aug. 26th, 1916: A. O. Roberts, E. D. Mackay. Aug. 28th, 1916: A. P. F. Rhys-Davids, W. Noble, R. H. New, F. J. E. Stafford, H. L. Storrs, J. E. H. Swain, H. S. Brackenbury, R. G. Dalziel, J. D. Inglis, V. M. Bowling. Sept. 4th, 1916: S. H. A. D'Arcy, F. J. Buckland and N. H. Mackrow.

The following appeared in a supplement to the *London Gazette* issued on September 6th:—

Flight-Commanders.—Lieut. (Temporary Capt.) C. C. Haynes, Devon R., from a Flying Officer; Aug. 16th, 1916. (And to be Temporary Captains whilst so employed): Temporary Lieut. (Second Lieut., Res. of Off.) Lord G. H. L. Dundas, General List, from a Flying Officer; Aug. 17th, 1916. Second Lieut. D. Joy, Special Reserve, from a Flying Officer; Aug. 21st, 1916. Second Lieut. G. S. Sansom, Special Reserve, from a Balloon Officer; Aug. 22nd, 1916.

Flying Officers.—Major N. D. K. MacEwen, Arg. and Suth'd Highrs., from Adjutant, Central Flying School; June 16th, 1916. Temporary Capt. H. E. Dixon, Midd'x R. and to be transferred to General List; Aug. 11th, 1916. Aug. 12th, 1916: Second Lieutenants, Special Reserve: L. V. Hirst, C. L. L. C. Brock, Temporary Second Lieut. G. Knight, General List. Second Lieutenants, Special Reserve:

J. R. Verel, D. A. Macneill, W. M. Kent, Temporary Second Lieut. H. V. Jerrard, General List; Second Lieut. (Temporary Lieut.) R. R. Money, E. York. R., from a Flying Officer (Observer); Second Lieut. O. G. Thomas, Special Reserve; Temporary Second Lieut. H. F. MacKain, General List; Temporary Second Lieut. K. Capel, General List; Second Lieut. W. E. Knowden, Bord. R., and to be seconded; Second Lieut. H. E. R. Fitchat, Special Reserve. Aug. 13th, 1916; Capt. F. L. Tayler, 42nd Deoli R., Ind. Army; Second Lieut. J. L. Leith, Hamps. R. (T.F.); Temporary Second Lieut. G. S. Murray, R. Fus., and to be transferred to General List; Second Lieut. (on probation) H. F. Champion, Rif. Brig., Special Reserve, and to be seconded; Temporary Second Lieut. H. G. H. Stewart, General List; Second Lieut. W. T. Hall, Special Reserve; Temporary Lieut. (Second Lieut., Res. of Off.) Lord G. H. L. Dundas, General List, from a Flying Officer (Observer); Aug. 16th, 1916.

Adjutants.—Temporary Lieut. A. Murray, from a Flying Officer (Observer); June 9th, 1916. Second Lieut. R. B. C. M. T. de Poix, Norf. R. (T.F.), and to be Temporary Lieutenant whilst so employed; Aug. 9th, 1916.

Supplementary to Regular Corps.—Second Lieutenants (on probation) confirmed in their rank: A. R. Crisp and E. C. Pashley.

To be Second Lieutenants (on probation): J. D. Coates; Aug. 14th, 1916. L. B. Blaxland; Aug. 28th, 1916.

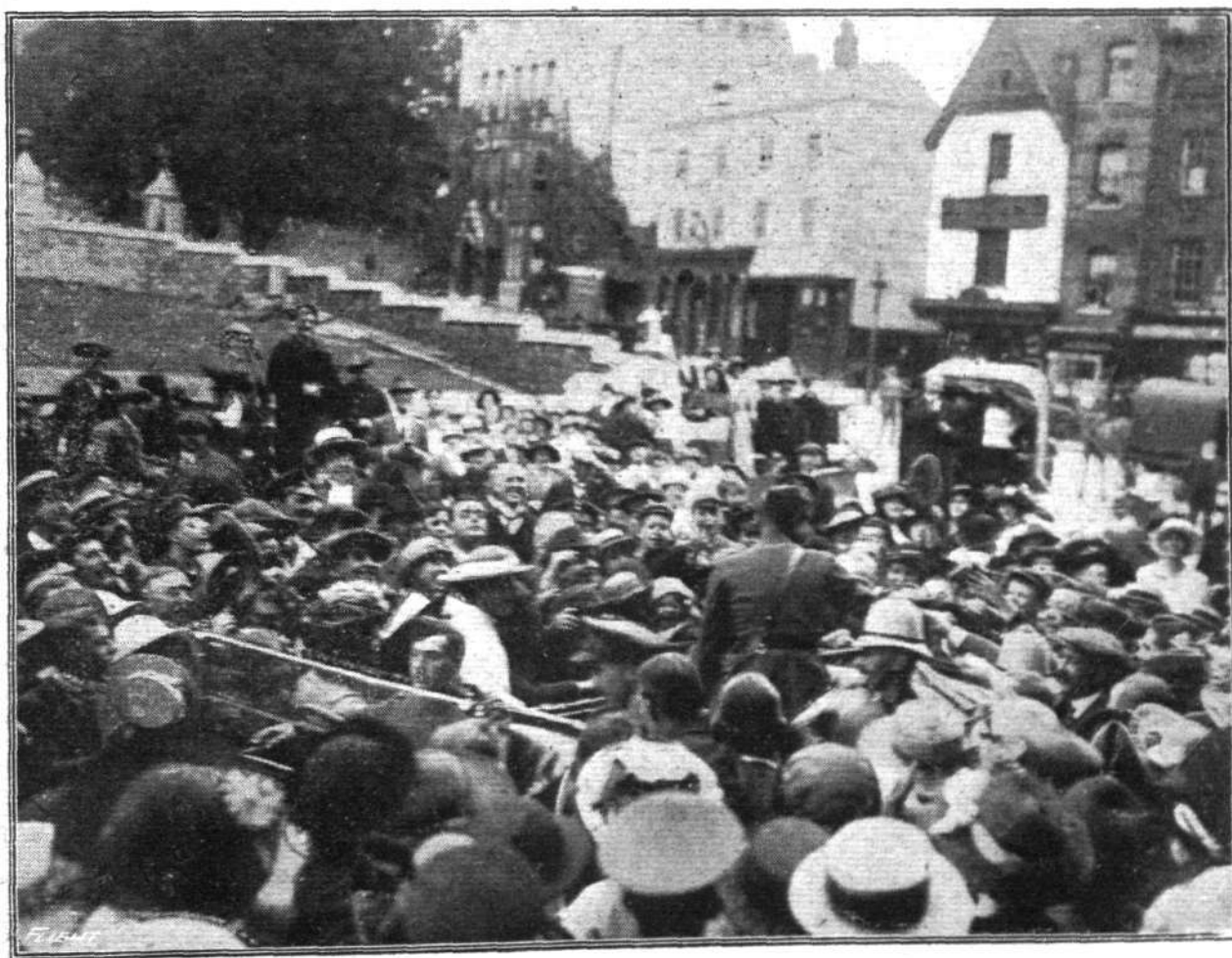
The following appeared in a supplement to the *London Gazette* issued on September 7th:—

The following Warrant Officers, N.C.Os. and men to be Temporary Second Lieutenants (on probation), for duty with the R.F.C.:—Aug. 8th, 1916: Sergt. J. E. Bonniksen, from R.F.C.; Corpl. L. G. Stevenson, from R.F.C.; Corpl. W. G. Morgan, from R.C.F.; Corpl. H. Howells, from R.F.C.; 1st Class Air-Mechanic J. D. H. Osborn, from R.F.C.; 1st Class Air-Mechanic G. L. Eliot, from R.F.C.; 1st Class Air-Mechanic H. F. N. Paull, from R.F.C. Aug. 9th, 1916: Corpl. (Motor Cyclist) B. D. Capper, from R.E. Aug. 10th,

1916: Flight-Sergt. A. Muir, from R.F.C.; 1st Class Air-Mechanic H. F. B. Bryan, from R.F.C.; 2nd Class Air-Mechanic C. H. Marchant, from R.F.C.; 2nd Class Air-Mechanic J. P. Burden, from R.F.C. Aug. 14th, 1916: Corpl. H. A. Blanchard, from R.F.C.; 1st Class Air-Mechanic L. Wigley, from R.F.C.; 1st Class Air-Mechanic L. A. Goss, from R.F.C.; 1st Class Air-Mechanic G. H. C. Hawkes, from R.F.C.

Equipment Officer.—Temporary Lieut. A. J. Boulter, General List, from an Assistant Equipment Officer, and to be Temporary Captain whilst so employed; Aug. 26th, 1916.

Flying Officers.—Aug. 4th, 1916: Lieut. D. H. M. Carbery, R.A., and to be seconded; Second Lieut. (Temporary Lieut.) R. H. Coles, W. Som. Yeo. (T.F.); Lieut. I. P. R. Napier, Arg. and Suth'd Highrs. (T.F.); Temporary Second Lieut. L. A. Davis, General List; Aug. 9th, 1916. Second Lieut. (on probation) F. E. Hollingsworth, Arg. and Suth'd Highrs. Special Reserve and to be seconded; Aug. 14th, 1916. Second Lieut. C. F. Uwins, Lond. R. (T.F.); Second Lieut. (on probation) H. E. McCutcheon, Worc. R. (T.F.); and Second Lieut. (Temporary Lieut.) G. H. B. Johnson, Durh. L.I. (T.F.); Aug. 15th, 1916. Second Lieut. R. D. Herman, S. Lan. R. (T.F.); Second Lieut. J. C. Lees, R. Sco. Fus. (T.F.); Capt. P. R. Grace, Special Reserve, from an Equipment Officer; Lieut. H. Hewett, R. Berks. R., from a Flying Officer (Observer); Temporary Lieut. R. Cadman, N. Staff. R., and to be transferred to the General List; Second Lieut. L. M. Woodhouse, Essex Yeo. (T.F.); Temporary Second Lieut. C. G. H. Wadleigh, General List; and Second Lieut. H. J. Whittingham, Special Reserve; Aug. 16th, 1916. Second Lieut. J. V. Bowring, S. Lan. R., and to be seconded; Second Lieut. E. C. Pashley, Special Reserve; Second Lieut. A. R. Crisp, Special Reserve; and Temporary Second Lieut. J. H. Sayer, General List. Aug. 17th, 1916. Second Lieut. V. L. Morgan, E. Kent R. (T.F.); and Second Lieut. (on probation) F. S. Wilkins, R.G.A., Special Reserve; Aug. 18th, 1916.



WORSE THAN THE DEED ITSELF.—What a popular hero has to go through. Lieut. Robinson, V.C., after being decorated by the King at Windsor Castle on Saturday, being greeted by the Windsor townsfolk.

Flying Officers (Observers).—Aug. 23rd, 1916: Temporary Lieut. S. E. O'Hanlon, Lan. Fus., and to be transferred to the General List; Temporary Lieut. R. E. Duke, Army Cyclist Corps, and to be transferred to the General List; Lieut. J. A. G. Brewis, Durh. L.I., Special Reserve, and to be seconded; Second Lieut. E. H. Stevens, E. Lan. R., Special Reserve, and to remain seconded; Temporary Second Lieut. F. W. Rennie, General List. Aug. 24th, 1916: Capt. H. C. C. Morley, E. Kent R., and to be seconded; Second Lieut. (Temporary Lieut.) G. Nelson, Sco. Rif. (T.F.); Lieut. W. E. Harper, Duhr. L.I., Special Reserve, and to be seconded; Lieut. E. C. Kemp, York R., and to be transferred to the General List; Second Lieut. W. J. Corbishley, Lond. Div. Cyclist Co. (T.F.).

Supplementary to Regular Corps.—Second Lieutenants (on probation) confirmed in their rank: R. G. Heyn, T. G. Leith, C. D. Higgins and S. Chappell.

To be Second Lieutenants (on probation): C. A. D. Fisher; Aug. 12th, 1916. Aug. 14th, 1916: D. Smith, F. M. Howard, M. A. Chappell, F. E. Hobley and H. G. Welsford; Aug. 14th, 1916. A. C. Hartley; Aug. 23rd, 1916.

The following appeared in the *London Gazette* of September 8th:—

Equipment Officer.—Second Lieut. S. S. Nevill, Special Reserve, from an Assistant Equipment Officer, and to be Temporary Captain whilst so employed; Aug. 21st, 1916.

Flying Officers.—Capt. R. G. Hopwood, Rif. Brig., and to be seconded. June 22nd, 1916: Second Lieut. R. G. Heyn, Special Reserve. Aug. 9th, 1916: Temporary Second Lieut. E. R. Mackey, General List; Aug. 12th, 1916. Aug. 13th, 1916: Second Lieut. B. N. Goudge, Leic. R., Special Reserve, and to be seconded; Temporary Second Lieut. R. E. Neve, Shrops. L.I., and to be transferred to General List. Lieut. E. B. Grenfell, D. of Corn. L.I. (T.F.); Aug. 15th, 1916. Aug. 16th, 1916: Second Lieut. (Temporary Lieut.) W. D. Miller, R.G.A. (T.F.); Second Lieutenants, Special Reserve: S. Chappell, C. Elphinstone, C. D. Higgins and B. James; Aug. 17th, 1916.

Memoranda.—The under-mentioned to be Temporary Second Lieutenants for duty with R.F.C.:—Sept. 9th, 1916: Sergt. R. Clowes, from Newcastle-under-Lyme High Sch. O.T.C.; Sergt. A. N. Kingwill, from Dulwich Coll.

O.T.C.; Pte. J. Spencer, from Harrow Sch. O.T.C.; Pte. E. H. G. Sharples, from Haileybury Coll. O.T.C.

The following appeared in a supplement to the *London Gazette* issued on September 9th:—

Flight-Commanders.—From Flying Officers: Capt. P. R. Grace, Special Reserve; Aug. 17th, 1916. Aug. 25th, 1916: Capt. A. A. Walser, Lond. R. (T.F.); Second Lieut. E. M. Pollard, W. York. R. (T.F.), and to be Temporary Captain whilst so employed.

Memoranda.—The under-mentioned to be Temporary Second Lieutenants for duty with R.F.C.:—Aug. 28th, 1916: Leading Air-Mechanic L. W. Barney, from R.N.A.S.; Pte. G. P. Colin, from Lond. R. (T.F.); Cadet T. F. Phillips, from Univ. of Lond. O.T.C.; Sergt. C. Cornelius-Wheeler, from 30th Bn., Canadian Exp. Force; Sergt. W. Durrand, from 66th Bn., Canadian Exp. Force; Cadet C. R. V. Cook, from Bristol Univ. O.T.C.; Acting-Sergt. W. Mason, from Canadian Exp. Force.

Supplementary to Regular Corps.—The under-mentioned Second Lieutenants (on probation) resign their commissions:—Sept. 10th, 1916: G. K. Webb, A. B. Vallance. The under-mentioned Second Lieutenants (on probation) are confirmed in their rank: C. N. Dore, H. G. Gibbs, C. Clarke, F. C. Mears. The under-mentioned to be Second Lieutenants (on probation): A. S. F. Morris; Aug. 3rd, 1916. Aug. 14th, 1916: W. T. Curtis, C. H. Butcher, E. A. Molyneux, G. H. Warneken, H. Willans Robinson, J. J. Lovesay, H. J. Barwick, H. B. Golding, D. L. Hollis, W. S. C. Stephens. Aug. 28th, 1916: R. Hunt, C. B. Van Leenof, A. E. Woodbridge, A. J. J. Lamb, T. L. Baylis and W. F. Simpson.

The following appeared in a supplement to the *London Gazette* issued on September 11th:—

Assistant Equipment Officers.—Second Lieut. T. Goulburn, Special Reserve; June 24th, 1916. Second Lieut. H. J. de C. Moore, Special Reserve, from a Staff-Lieut. at the War Office; August 29th, 1916.

Supplementary to Regular Corps.—Second Lieut. (on probation) K. J. Box resigns his commission; September 12th, 1916.

Second Lieuts. (on probation), confirmed in their rank: E. Laurie, E. B. Macmanus, A. T. Shaw, I. B. Hart-Davies, C. D. Bennett, F. L. Luxmoore, S. C. Maytom.



HONOURS.

Rewards for the R.N.A.S.

In a supplement to the *London Gazette* issued on September 7th, it was announced that the King has been graciously pleased to give orders for the award of the Distinguished Service Cross to the under-mentioned officers:—

Flight Sub-Lieutenant R. S. DALLAS, R.N.A.S.

Flight Sub-Lieutenant Dallas, in addition to performing consistently good work in reconnaissances and fighting patrols since December, 1915, has been brought to notice by the Vice-Admiral, Dover Patrol, for the specially gallant manner in which he has carried out his duties. Amongst other exploits is the following: On May 21st, 1916, he sighted at least 12 hostile machines, which had been bombing Dunkerque. He attacked one at 7,000 ft., and then attacked a second machine close to him. After reloading, he climbed to 10,000 ft. and attacked a large hostile two-seater machine off Westende. The machine took fire, and nose-dived seawards. Another enemy machine then appeared, which he engaged and chased to the shore, but had to abandon owing to having used all his ammunition.

Sub-Lieutenant (now Acting Lieutenant) C. B. OXLEY, R.N.

Sub-Lieutenant Oxley was acting as observer with Flight-Lieutenant Edward H. Dunning, D.S.C., as pilot, on escort and reconnaissance patrol for a flight of bombing machines on the Bulgarian coast, on June 20th, 1916. Two enemy machines were engaged at close range and forced to retire, and as our machine withdrew Flight-Lieutenant Dunning was hit in the left leg, and the machine itself was badly damaged. Sub-Lieutenant Oxley, having first improvised a tourniquet, which he gave to Flight-Lieutenant Dunning, took control of the machine, whilst the latter put on the tourniquet. The pilot was obliged to keep his thumb over a hole in the lower part of the petrol tank in order to keep

enough fuel to return to the aerodrome, where he made an exceedingly good landing.

Flight Sub-Lieutenant D. E. HARKNESS, R.N.A.S.

Flight Sub-Lieutenant R. H. COLLETT, R.N.A.S.

In recognition of their services on the morning of August 9th, 1916, when they dropped bombs on the airship sheds at Evers and Berchem St. Agathe. Flight Sub-Lieutenant Collett dropped all his bombs on the shed at Evers from a height of between 300 and 500 ft., under very heavy rifle, machine-gun and shrapnel fire from all directions. Flight Sub-Lieutenant Harkness could not descend so low owing to the very heavy anti-aircraft fire which had by this time been opened on the machines, but he dropped some of his bombs on the shed, and then proceeded to Berchem St. Agathe, which he also bombed.

Correction.—It is officially announced that the name of Chief Petty Officer, R.N.A.S., Harry Nelson, O.N. F. 8945, which appeared in the list of men mentioned in Despatches on p. 415 of "FLIGHT" of May 18th, 1916, should read: Chief Petty Officer Mechanic, R.N.A.S., Hugh Nelson, O.N. 272016.

A Bar to a Military Medal.

In a special supplement to the *London Gazette*, issued on September 9th, it was announced that the following officer had been awarded a Bar to his Military Cross for a subsequent act of conspicuous gallantry:—

Lieutenant (Temporary Major) ARTHUR ASHFORD BENJAMIN THOMSON, R. War. R. and R.F.C.

For conspicuous gallantry and good work during Zeppelin raids.

(The Military Cross was awarded October 2nd, 1915.)

The announcement of the award of a second Military Cross, dated May 31st, 1916, is now cancelled.

CONSTRUCTIONAL DETAILS—XV.*

HAVING dealt, in previous instalments of our series of constructional details, with the mounting and cowling of rotary engines, both on tractors and "pushers," the next type to be studied is the radial air-cooled engine with its supports and housing. While there are several types of rotary engines in general use the radial air-cooled motor is to all intents and purposes confined to a single make of engine—the Anzani—which ever since the day when it made Mons. Blériot's famous cross-channel flight possible, has stood the test of time on all manner of machines, from the little 30 h.p. school machine to the big twin-engine "battle-plane."

The Anzani is so well known that no lengthy description of it will be necessary here; suffice it to recall the fact that it is designed to be supported by long bolts passing through the crank-case from front to back. This arrangement, which has proved entirely satisfactory in practice, has no doubt been responsible for the fact that one form of mounting has been practically universally adopted—i.e., a capping plate of heavy gauge sheet steel, provided with flanges bolted to the rails of the body, has a circular opening cut in it to clear the magneto, oil pump, &c., and round this opening, and uncomfortably close to it, by the way, are holes corresponding with the long bolts passing through the crank-case. In some machines, where this mounting cantilever fashion has been thought insufficiently rigid, the front of the crank-case is supported by tubes running from the front end of the crank-case bolts to some suitable point on the machine, thus relieving the engine plate of some of the buckling strain to which the cantilever mounting subjects it. In one instance only have we been able to trace any attempt to devise a front support other than the tubes mentioned above. We are referring to the Blériot mounting of the 35 h.p. Anzani. In this a pressed steel frame of the form illustrated in our sketch of the Blériot mounting supports the front end of the propeller shaft, which runs in a ball-bearing placed in the centre of the front engine frame. From the point of view of rigidity of the mounting this method is obviously a better engineering proposition than is the usual cantilever mounting, and as regards weight it will probably be found to be as light as, if not lighter than, the single plate mounting, which must necessarily be of considerably heavier gauge than each of the two Blériot type engine plates. When the head resistance comes to be considered, however, it is obvious that this must be somewhat high in this machine.

Turning our attention to the usual mountings of the Anzani engines, a glance at the accompanying sketches will show that these are practically identical in all the examples shown, with the exception that in some instances an auxiliary support is provided in the form

* Previous sets of sketches in this series have appeared as follows:—

Strut sockets	Sep. 10	Vee type undercarriages ..	Nov. 5
" " " " " "	" 17	" " " " " "	" 12
" " " " " "	" 24	Wheel undercarriages ..	" 19
" connections, &c. ..	Oct. 1		
Wing spar sections ..	" 8		1916.
Streamline struts, sections ..	" 15	Engine mountings ..	Jan. 6
Double-skid undercarriages ..	" 22	" " " " " "	Apl. 27
Single-skid undercarriages ..	" 29	" " " " " "	June 8

Any of these back numbers can be obtained from "FLIGHT" Office, 44, St. Martin's Lane, price 6d. each, post free.

of tubes running back to the main framework of the body. This, it will be seen, is the case with both the Caudron machines. In the monoplane there are four of these tubes running to the top and bottom rails of the body, whereas in the biplane the upper tubes only have been retained, although further support is provided by another pair of tubes bolted at their upper ends to the leading edge of the top plane at the point where occur the inner inter-plane struts.

In the Handley-Page biplane a single tube supports the front of the engine, passing through the cowl and up to the top of the *cabane* that carries the upper plane. As mounted on the two Deperdussin monoplanes shown no forward support is employed, the entire weight of the engine being taken by the main engine bearer.

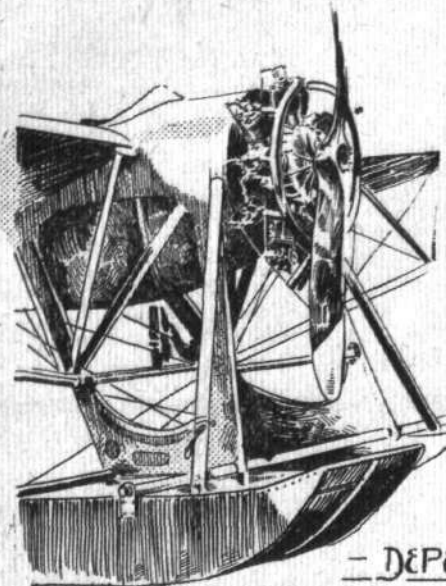
With regard to the cowling employed, if any, this is to a large extent determined by and dependent upon whether or not the particular engine is of the older type fitted with auxiliary exhaust ports in the cylinders, or of the newer type in which these ports have been dispensed with. In the former case there will obviously be a lot of oil thrown out through the auxiliary ports, which it is desirable to prevent by some form of cowling from being blown back in the pilot's face.

In the British Deperdussin Military monoplane shown in one of our sketches this purpose is served by a small aluminium shield surrounding the upper part of the engine so as to protect the pilot against at least the oil from the top cylinders. The fast little Caudron monoplane on which Mr. Ewen crossed the Channel had a very diminutive flat shield, which must have been even less effective than was that of the Deperdussin, seeing that the short exhaust pipes of the upper cylinders projected above the shield, which served only to guard against the oil splashed out through the auxiliary ports. In the little 35 h.p. Anzani engine Blériot no attempt whatever was made at reducing the bath of oil issuing from pipes and ports, as pupils learning on these machines will testify. In later Anzani models, however, the exhaust ports have disappeared, with, it is true, a slight loss in power, but with a very considerable gain in comfort. In these newer types it is usual to fit what is generally known as collector pipes, that is to say, two long curved pipes conveying the exhaust gases, which are led to them through short branch pipes from each cylinder, down below the body of the machine where they do not interfere with the pilot's vision. In the Handley-Page biplane these pipes were extended unusually far back, and terminated, as will be seen, in a silencer, the result being that at a very low altitude this machine could not be heard from the ground.

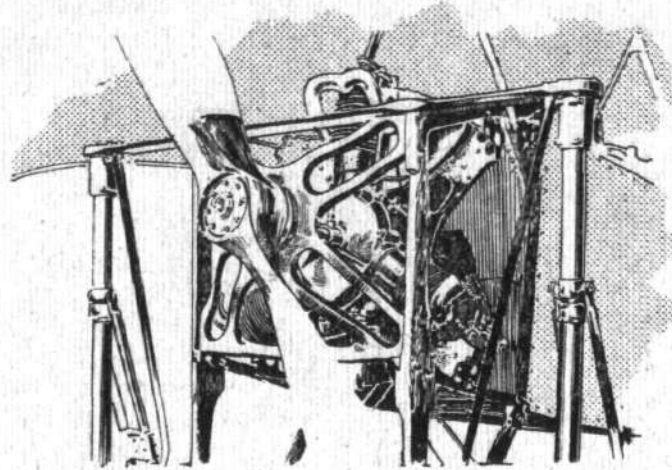
It will be easily seen that when these exhaust collector pipes are fitted no shield is necessary for the purpose of catching any oil, but it would appear that from the point of view of resistance a very considerable advantage might accrue from employing some form of aluminium nose piece that would afford a better entry for the air than does the frequently blunt nose of a machine, and the flat ribbed crank case. It should be quite possible to design such a cowl, which would round off the crank case and lower portion

CONSTRUCTIONAL DETAILS—XV.

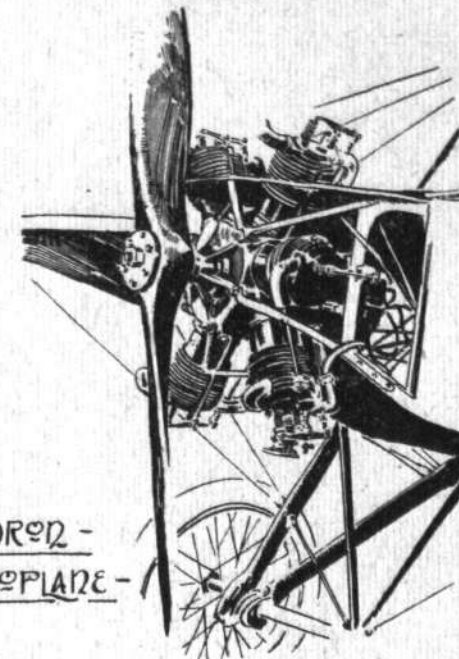
FLIGHT



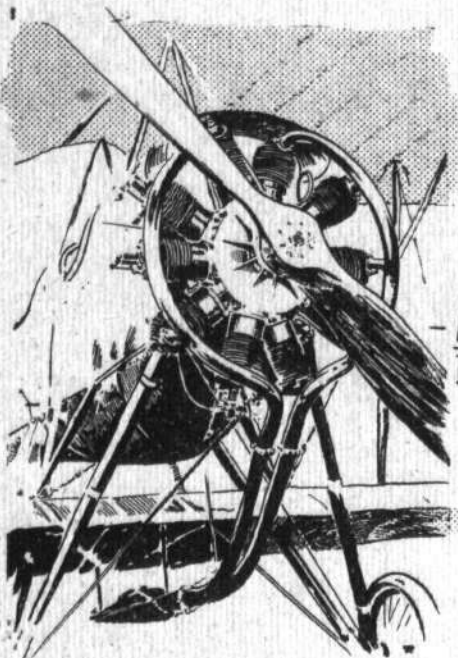
— DEPERDUSSIN —



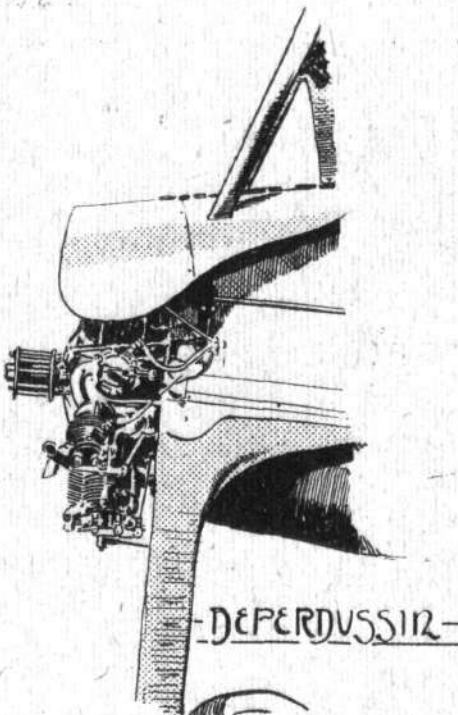
— BLÉRIOT —



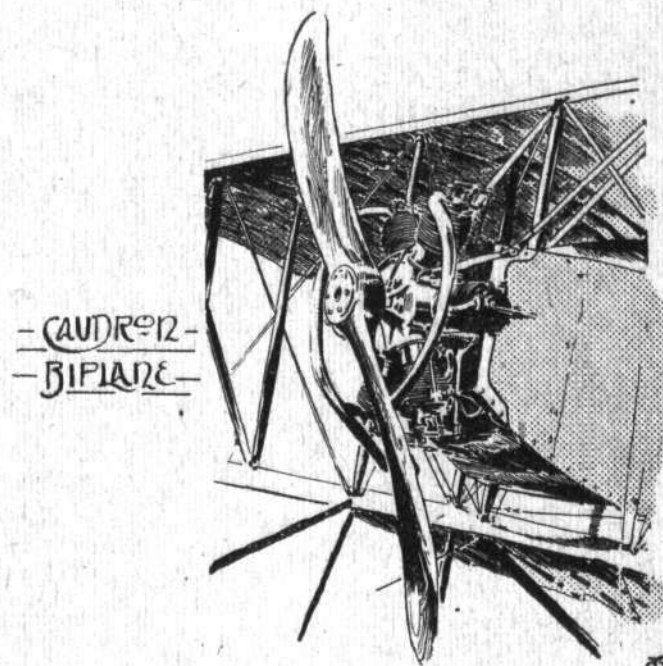
— CAUDRON —
— MONOPLANE —



— HANDLEY —
— PAGE —



— DEPERDUSSIN —



— CAUDRON —
— BIPLANE —

• Different mountings and cowls of radial air-cooled engines.

of the cylinders, while leaving the finned portion of them exposed to the flow of air. In the Deperdussin seaplane the cylinders hardly project beyond the sides of the body, which would, it seems to us, mean that not only could the flow of air round the cylinders not have been so good as might have been desired for cooling purposes, but that the large normal area presented by the flat nose of the body, must have offered a very considerable amount of resistance.

That this question is well worth studying is proved by the fact that in recent Anzani engines the crank case webs have been placed inside instead of outside the front cover, with the result that in a given machine the speed was increased by several m.p.h. If the mere rounding off of the nose of the crank case will do this, surely there is reason to suppose that a cowl round the entire centre part of the engine will give even better results.

THE ROLL OF HONOUR.

THE Secretary of the Admiralty announces the following casualties:—

Accidentally Killed.

Squadron Com. I. H. W. S. Dalrymple-Clark, R.N.
Flight-Lieut. C. W. Graham, D.S.O., R.N.

Died.

Temp. Flight Sub-Lieut. Lewis Radmore, R.N. (SEPT. 6th).

Missing.

Acting Flight-Com. G. H. Beard, D.S.C., R.N.

Slightly Injured.

Prob. Flight Sub-Lieut. J. M. Mapplebeck, R.N.
Flight Sub-Lieut. C. S. Nunn, R.N.

Previously reported Missing, now Presumed to have been Killed.

Flight-Lieut. R. G. A. Baudry, R.N.

The following casualties have been officially announced by the War Office:—

Killed.

Second Lieut. G. M. Allen, R.F.C.
Lieut. R. Burleigh, R.E. and R.F.C.

Previously reported Missing, now reported Killed.

Second Lieut. H. W. Butterworth, R.F.C.

Died of Wounds.

21289 2nd Air-Mechanic J. McCulloch.

Died.

2199 Sergt. R. Ruffell, R.F.C.
4699 1st Air-Mechanic F. G. Young, R.F.C.

Wounded.

Second Lieut. G. N. Anderson, Yeo. and R.F.C.
Second Lieut. R. S. Capon, King's (Liverpool) and R.F.C.
Second Lieut. S. W. Carline, R.F.C.
Second Lieut. S. Chappell, R.F.C.
Second Lieut. A. P. V. Daly, Connaught Rangers and R.F.C.
Lieut. G. G. B. Downing, R.F.C.

Second Lieut. S. A. Gibbons, R.F.C.

Second Lieut. R. H. Johnson, R.F.A. and R.F.C.

Second Lieut. G. K. Macdonald, Sherwood For. and R.F.C.

Lieut. F. S. Rankin, Canadian Engrs., attd. R.F.C.

Second Lieut. F. W. Rennie, R.F.C.

Second Lieut. P. A. Wright, R.F.C.

9389 2nd Air-Mechanic G. M. Howell, R.F.C.

Missing.

Second Lieut. E. Burton, R.E., attd. R.F.C.

Second Lieut. D. S. Cairnes, Rif. Brig., attd. R.F.C.

Second Lieut. H. C. Evans, D.S.O., R.F.C.

Second Lieut. F. W. Griffiths, Middlesex Regt., attd. R.F.C.

Second Lieut. J. D. A. Macfil, Black Watch, attd. R.F.C.

Second Lieut. F. G. Macintosh, R.F.C.

Lieut. H. F. Mase, R.F.C.

Second Lieut. A. J. O'Byrne, King's (Liverpool), attd. R.F.C.

Lieut. V. G. Odling, R. Berks. Regt., attd. R.F.C.

Second Lieut. F. D. H. Sams, R.F.C.

Capt. H. G. Salmond, R.F.C.

Capt. A. Skinner, S. Lancs. Regt. and R.F.C.

Lieut. D. Stewart, R.G.A., attd. R.F.C.

Second Lieut. M. H. Strange, R. Fus., attd. R.F.C.

Second Lieut. K. G. Tullock, R.F.C.

Second Lieut. B. M. Wainwright, R.F.C.

Capt. O. L. Whittle, S. Lancs. Regt. and R.F.C.

Capt. R. E. Wilson, Hampshire Regt., attd. R.F.C.

934 Sergt. E. H. Dobson, R.F.C.

2260 Sergt. A. Walker, R.F.C.

Previously reported Missing, now reported Prisoners of War in German hands.

Second Lieut. J. H. Firstbrook, R.F.C.

Capt. J. H. F. McEwen, Cameronians (Scot. Rif.), attd. R.F.C.

Correction:

Previously reported Missing, now reported Killed.

Second Lieut. J. L. P. Armstrong, A.S.C. and R.F.C., should read:

Previously reported Missing, now reported Died of Wounds.

Lieutenant W. L. Robinson Gets his V.C.

Lieut. W. L. ROBINSON was present at the Investiture at Windsor Castle on September 8th, when the King decorated him with the Victoria Cross. Lieut. Robinson was also presented to the Queen, Princess Mary and Prince Albert.

Rewards for Lieutenant Robinson, V.C.

THE first of the cash rewards actually to be received by Lieut. Robinson was £500 from Mr. L. A. Oldfield. Mr. William Bow has also sent him the £500 which he offered to the first pilot to bring down a Zeppelin on British soil. It is proposed that there should be a public presentation at Newcastle of the £2,000 offered by Col. Joseph Cowen. Lord Michelham, who offered £1,000 to each of the first 10 aviators who may destroy Zeppelins, has sent that sum to the Lord Mayor to be handed over to Lieut. Robinson. Two prizes of £100 each offered by two Nottingham citizens, Mr. G. Wigley and Mr. John Ball, are also to be given to Lieut. Robinson.

The Lord Mayor of London is in communication with the War Office with regard to the bestowal of a civic honour upon Lieut. Robinson. It may be noted that the £500 originally offered by Sir Charles Cheers Wakefield has already been expended in providing gold medals, which were distributed among the 353 officers and men who were deemed to be concerned in bringing down L. 15 in the Thames Estuary.

"L. 21" Relics to be Exhibited.

AN opportunity for the public to see something of what remains of the German airship destroyed at Cuffley, is shortly to be afforded in London, although the actual time and place of the exhibition has not yet been decided upon. The War Office is in communication with the Lord Mayor on the matter. It will probably be at the Guildhall or the Mansion House, and the proceeds will go to charities. The exhibition might be a fitting opportunity for the relic-finders who have not so far risen to the invitation of the W.O. to hand them over, to put them on show labelled with "Lent by —." The W.O. could then borrow a few of those they may want.

Kut Prisoners at Baghdad.

THE following message, dated Baghdad, July 23rd, has been received in London from Flight-Lieut. Cecil B. Gasson, R.N.A.S., one of the British prisoners captured by the Turks in Mesopotamia:—

"I am getting on quite well. My foot is progressing favourably. I hope to hobble in a few weeks' time. There are several of us here in an English hospital. We are very comfortable, get our pay regularly, and can buy most things in the shops. We are very well treated. Best love to all, Don't worry."

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

SPECIAL COMMITTEE MEETING.

A SPECIAL MEETING of The Committee was held on Thursday last, the 7th inst., when there were present: Professor A. K. Huntington, in the Chair; Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Flight-Commander C. F. Pollock, R.N., and the Assistant Secretary.

Election of Members.—The following New Members were elected:—

Second Lieut. Arthur Vivian Burbury (Yorkshire Regt.).
Flight-Lieut. William Albert Burns, R.N.
Capt. Francis Percival Don, R.F.C.
Flight Sub-Lieut. Arthur Westlake Farquhar, R.N.
Lennox Weston Glendower Forster.
William Edward Foster.
Second Lieut. Arthur Clifford Hartley, R.F.C.
Flight Sub-Lieut. Eric Perrin Hicks, R.N.
Capt. Ernest E. Hodgson, R.F.C.
Huw Conway-Jones.
Second Lieut. Roland Mann (Coldstream Guards).
Second Lieut. Richard Fitz Power, R.F.A.
Capt. Henry Sidney Lees-Smith, S.A.D.F.
Lieut. Guy Sydney Maxwell Taylor, R.E.
Lieut. Hardress Edmund Waller (2nd York and Lancaster Regt.).
Lieut. George Francis Maule Warner.
Flight-Com. Harold Edward Mostyn Watkins, R.N.
Flight-Com. Ernest Victor Samuel Wilberforce, R.N.
Capt. John Whitaker Woodhouse, R.F.C.

THE FLYING SERVICES FUND administered by

THE ROYAL AERO CLUB.

THE Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The Fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers, and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 166, Piccadilly, London, W.

Subscriptions.	£	s.	d.
Total subscriptions received to Sept. 5th, 1916	10,829	1	5
John Twells	1	1	0
Collected at the Westland Aircraft Works, Yeovil (Forty-seventh contribution)	1	2	3
Staff and Workers of Gwynnes, Ltd. (Twenty- third contribution)	8	2	8

Total, September 12th, 1916 .. 10,839 7 4
166, Piccadilly, W. B. STEVENSON, Assistant Secretary.

FLYING AT HENDON.

IDEAL weather conditions prevailed at Hendon last Saturday afternoon, and a fair number of visitors turned up to see the flying. The latter was much the same as usual—passenger flights by the Grahame-White pilots on the 80 h.p. three-seater biplane and sundry Curtiss, B.E., R.E. and Maurice Farman machines up. We noticed Capt. B. C. Hucks was flying the last-named make of machine, and it quite reminded us of old times, except that the megaphone man did not announce him by name. H. Sykes brought out the Martinsyde biplane, and with A. A. Fletcher as passenger started off for Richmond, where he was to give a looping display, as reported elsewhere. Before leaving the aerodrome Sykes gave us a farewell loop, for he is going to pitch his hangar in fields afresh, and will only be seen at Hendon in

coming days as an aerial visitor. During the afternoon a Sopwith triplane came over and performed various wonderful evolutions, including some climbing loops, which bore the unmistakable trade-mark of Harry Hawker. A little later on he departed for Brooklands way, and shortly after he—or perhaps it was another pilot—paid a second visit, this time on a one-and-a-half strutter. W. T. Warren-the-Younger, at about the same time the latter machine was gambling about, brought out a 45 h.p. L. and P. Caudron and put up a few stunts, which appeared to be quite dainty alongside those of the other. After this the various schools got going, and as there were several “pups” in the early circuit stage plenty of fun was to be enjoyed, albeit at times it was somewhat alarming. On Sunday, Saturday's dose was repeated.

Aerial Contortions at Richmond.

WHILST a sort of garden fête, on behalf of the Richmond Boys' Naval Brigade and the Star and Garter Fund (wounded and disabled soldiers), was in progress on the old-world Richmond Green last Saturday afternoon, a biplane appeared overhead and “bombed” the merry-makers with thousands of leaflets bearing the following device:—

“Whitehead Aircraft wish every success to the Richmond Boys' Naval Brigade and to the Star and Garter Fund, Richmond. Pilot—H. Sykes. Passenger—Mr. Fletcher. Saturday, September 9th, 1916.”

Then followed a series of aerial contortions that both amazed and amused. There were loops, tail-slides, nose-dives, switchbacks, and many other indescribable evolutions—in fact, H. Sykes, figuratively speaking, let himself and the machine go. He and his passenger had come from Hendon on the Martinsyde, and on the way looped over Kew Bridge and Richmond Bridge, where, needless to say, considerable excitement prevailed. At the conclusion of the demonstration the pilot made for the old Deer Park—the scene of poor Graham Gilmour's fatal accident in 1912—where a safe landing

was made. A little later G. H. Stevens made a short solo flight, after which the machine was flown over to Hanworth, where it was housed.

Germans Forge Daily Mail.

TRAVELLERS from Brussels report that forged copies of the *Daily Mail* are being printed and circulated with the idea of spreading false news as to the condition of this country and the effect of Zeppelin raids. It represents London as being for the most part reduced to ruins. It is stated that the forgeries have been so cleverly printed that it is extremely difficult to distinguish them from the genuine article. In the meantime the *Vossische Zeitung* publishes a story to the effect that the English Press prints two editions, one containing home truths for home consumption and the other pretty stories for neutrals.

A Submarine Destroyed by Aeroplane.

INFORMATION has been received in Amsterdam that a British pilot recently destroyed a damaged submarine in Zeebrugge Harbour. The Germans fired heavily at the aeroplane, which, however, returned safely to its station at Dunkirk.



Grahame-White School, Hendon.

STRAIGHTS with instructors last week: Messrs. Meering, Saunders, Styles and Zambournis. Circuits with instructors last week: Messrs. Culver, Cockell, Edwards, Fisher, Hodgkinson, Lyles and Mills.

Instructors: Messrs. Manton, Winter, Pashley, Hale and Biard. Brevets during week: Messrs. Jamie, Keymer, Ormerod, Shadwell and Soden.

Hall School, Hendon.

PUPILS out during last week: With Cecil M. Hill: Messrs. Orton, Cordner, Rayne, Cowell and Lieut. Malden. With

London and Provincial School, Hendon.

PUPILS doing straights, circuits and eights last week: Messrs. Sellars, Lewis and Davy.

Instructors: Messrs. W. T. Warren, M. G. Smiles, P. G. Allen and W. T. Warren, Jun.

Royal Aero Club certificates were taken this week by Messrs. A. F. Sellars, Tom Lewis and Archie Davy.

Bournemouth School.

PUPILS rolling alone last week: Messrs. Burry, Allan and



Copyright, F. N. Birkett, from the F.N.B. Series.
A group of pupils and instructors at the Hall Flying School, Hendon.

Gerald Smith: Mr. Stamps; Mr. E. Hatchman extra practice. With Fred J. Glegg: Messrs. Bateman, Smith, Henley, Mayer, Barton and Packman. With Stanley G. Cowrie: Messrs. Maude, Course, Yuill, Foster and Blake.

Royal Aero Club certificates were taken by Messrs. Cordner, Orton, Rayne and Stamps, all in excellent style. Hall Government-type tractors in use.

Ross. Doing straights alone: Messrs. Brandon, Montgomery, Holland, Davies, Constant and Wilmott. Half circuits alone: Messrs. Adamson, Hammersley, Fenn and Hinchliff. Circuits and figures of eight alone: Messrs. Daniel and H. Smith.

Instructors: Messrs. S. Summerfield and E. Brynildsen. 35, 45 and 60 h.p. Caudrons in use.

3rd Class Air-Mechanics, R.F.C.

In an Army Order issued on September 6th, it is announced that all recruits taken for the Royal Flying Corps who fail to pass the trade test for 2nd Class Air-Mechanics on enlistment, will be graded as 3rd Class Air-Mechanics while under training and until they qualify as 2nd Class Air-Mechanics.

Technical Quartermaster-Sergeants, R.F.C.

ANOTHER Army Order, dated September 6th, states that

the rate of pay of Technical Quartermaster-Sergeants of the Royal Flying Corps appointed from August 27th is to be 8s. a day.

Military Aviation in Japan.

THE estimates of the Japanese War Office for the next fiscal year include 1,000,000 yen (a little over £100,000) for the aviation corps; this is an increase of 400,000 yen compared with the current year. It is proposed to build 10 aeroplanes, put up some more sheds and lay out another aerodrome in addition to the one at Tokorozawa.



ARMCHAIR REFLECTIONS

by the "Dreamer"



It is proposed to erect a monument at Cuffley to mark the spot where Lieutenant Robinson brought the raider to grass. The ground has already been offered as a gift to the nation, and the granite promised.

There are those who would have our country bristling with monuments. I doubt not that when the widening of Fleet Street is completed and traffic has a chance to progress smoothly, somebody will stick a monument up in the very middle of it to commemorate the widening, even as at Temple Bar.

I have nothing in the world to say against the proposed monument except that it does not appear to be necessary; that we have already far too many monuments; that most of those we now have would be better removed.

By this you shall judge that I am no lover of monuments. Artistic statues are a feast of art when placed and viewed midst their proper surroundings. Portrait statues in the public streets are an abomination: as well hang the family portraits on the front railings. Who can look upon most of the portrait statues in London without feeling sorry for those they are supposed to represent? There they stand, or sit, or loll, in their robes of office and four-and-eleven trousers, holding out a roll of paper with one hand, and holding on to the back of a chair or something with the other, for all the world like a spring poet who has gained the sanctum sanctorum disguised as subscriber.

With the erection of some suitable memorial to commemorate something of great national importance, I entirely agree, provided it be a work of art, and something worth looking at. The arch at the entrance to Constitution Hill bearing aloft that glorious creation of the sculptor's art, is magnificent. And what could be more beautiful than the Victoria memorial in the Mall?

What annoys me is the sticking up of petty granite pillars all over the place to commemorate something or somebody which the people of a few years hence will not be interested in to the extent of asking what it is all about. London is full of old monuments with unreadable inscriptions, neglected, decaying crumbling. Monuments are raised to dead men and to living men. They spring up to commemorate great deeds, and they are placed in position as a reminder of those of another description. When I rail at the frightfulness of the Hun, I would like to forget that tablet let into the wall of the old wing of "Bart's" in Smithfield. It marks the spot where the three Johns—Rogers, Bradford and Philpot—were burned at the stake.

As a monument I can accept the Nelson Column on account of its noble proportions and its artistic aspect, but it were better to have stopped at the capitol. The figure above is to me but the effigy of a great man.

I suppose it is all very much a matter of personal feeling and opinion, and that which I see nothing in might to others be an object of merit—excepting those sprouting obelisks, of course.

I remember Cleopatra's Needle coming over in its cylindrical boat, and the anxious way I watched for its erection on the embankment, and the disappointment when I saw it. It may be that it is a very beautiful thing. I have seen people stand and gaze at it open-mouthed. So far as I feel, it might just as well never have been dug up out of its native sand, or left to rest beneath the waves of Biscay O.

The feat of Lieutenant Robinson was a great one. We were all very pleased at and very thankful for his skill in destroying the nighthawk. He has justifiably been the hero of the hour, and the cross pinned upon his breast by his King was faithfully and honestly won. We are all very proud of him, but I do not think that his deed, meritorious as it was, will go down through history except as one of many thousands of equally great deeds done during this time of trouble and bloodshed.

I have studied the portraits of a great many of the heroes who have won the coveted cross during the war. They are of all sorts and sizes. Good to look upon, and commonplace. They range from the ex-newspaper seller to those from the upper ten thousand, but they are all alike in their modesty. Having done their duty in its highest aspect, and won their honour, it is but human nature that they appreciate a little lionising; after that they prefer to slip out of the limelight. *Aura popularis* is short lived, and has no solidity. It is but an edifice with foundations of sand. A day, or an hour, and we are whisked off into fresh channels. Of the deed say nothing but good, but, between ourselves, I fancy Lieutenant Robinson will not be very keen on that monument.

Life is but a span, and Anno Domini is skilled in wrapping up the past and packing it away down in the cellar of memory. Short as life is, we fail to carry with us to the end an index of all those parcels packed away down below. Therefore, it is necessary that the more important ones should be marked with a cross in order that we may keep them in mind, but for goodness' sake do not let that cross be a potty little granite obelisk.

The felling of the night raider is but the business of the hour. Maybe before the war is ended many more of these monsters will dig their nose into English soil. We cannot erect monuments for all. That this one was the first is but by the way, and I shall not trouble to travel out to Cuffley to view ground that is exactly like all other ground round and about. The monument might some day be in somebody's way and be removed nearer to London. One spot is as good as another so far as I know.

ANSWERS TO CORRESPONDENTS.

If in doubt about anything aviatric, write to "FLIGHT" about it.

H. F. (Woking).

The main reason for making the upper wing of a biplane of larger area than the lower one is that in any biplane there exists a certain amount of interference, which, although having little or no effect on the drag coefficients, reduces the lift coefficient of both wings taken together, the decrease in lift being more pronounced in the case of the lower wing than in the upper. Generally speaking the top plane carries about 30 per cent. more of the load than does the bottom wing. It will, therefore, be seen that by placing as great a proportion as possible of the total area in the upper wing the overall efficiency is increased. If this process is carried to its logical conclusion the result is, of course, the parasol monoplane; but from constructional considerations it is advisable to retain the biplane form, and aero-dynamically it is not advisable, from the point of view of fore and aft stability, to place the centre of resistance so far above the centre of thrust as it is in the parasol type. Since it is the lift coefficient rather than the drag coefficient that is affected by biplane spacing, it will be understood that the gain obtained with a larger top plane is more in the nature of increased climbing rate than in maximum speed.

A. C. (Peterborough).

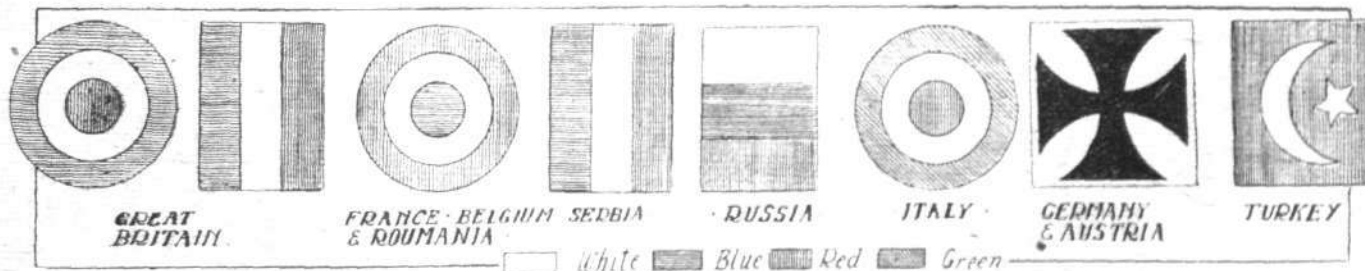
Multiplane construction is a subject on which in the past opinions have been divided, and has, as a matter of fact, its pros and cons. It has been explained above that interference between superimposed planes takes place, and the overall lift coefficient in a multiplane would therefore be somewhat reduced. On the other hand, the drag coefficient is little affected, so that for a high-speed machine it would appear that the triplane or multiplane form might have its advantages. Several other facts indicate possibilities in multiplane construction. For instance, for a given area the wings could probably be made a good deal lighter, and by carrying the lift wires through from the lower to the top plane a very good angle of the wires would be obtained. Again, if for a given span the desired area is obtained by increasing the number of planes and decreasing the chord of each individual plane, the aspect ratio is increased, which tends towards greater efficiency. Another point in favour of the multiplane is that, as the chord decreases so does the travel of the centre of pressure, so that the machine would approach more to fore and aft stability as regards the wings themselves. Owing to the small travel of the centre of pressure one inter-plane strut might be made to do the work of two, the length of strutting and wiring thus being halved. This has already been tried in biplanes, but is not very satisfactory, from a constructional point of view, when the chord is the usual, i.e. 5 to 6 ft.

A. M. (Basingstoke).

The engine you mention is, we believe, quite good, but would undoubtedly be improved by having mechanically operated inlet valves. There is no reason to suppose that it is particularly apt to cause a fire through backfiring, although it is, of course, a possibility.

A. H. B. (Bournemouth).

The accompanying diagrams will give an idea of some of the various distinction marks employed by the belligerents.



The British consist of circles, having a red centre and a blue circumference, with a white or (occasionally) the natural colour of the fabric in between. The positions for these circles are: Two on the upper surface of the top plane near the wing tips; two on the lower surface of the bottom plane, also close to the tips; one on each side of the body between the pilot's seat and the tail. Sometimes simply a red circle is used on naval machines. The rudder is painted with

three vertical stripes in the following order counting from front to back: blue, white, red. The French distinction marks are similar to the British, with the exception that the centre of the circles is blue, and the circumference red. The Belgian, Serbian and Roumanian marks are similar to the French. The Russian marks are lateral stripes on the planes in the order from the leading to the trailing edge of the wing: white, blue, red. We believe, however, that lately the Russians have adopted circles similar to those of the other Allies. Our Italian Allies incorporate their national colours in a rosette on their machines. The device has a red centre, then a white ring with a green circle outside. In addition to the marks indicating nationality others are employed to distinguish machines engaged on special duties, but details of these marks cannot, of course, be given. The German and Austrian distinction mark is, as is well known, the black cross on white, while the Turkish consists of a white crescent and star on red. As a matter of fact, we believe that the Turks are now using the same black cross as the Germans.

H. C. B. (King's Lynn).

Lack of space prevents us from giving a technical explanation of looping the loop and upside down flying. The loop, of course, depends upon centrifugal force, and in a clean loop there is no reversal of pressure on the wings. If, however, the machine drops below a certain speed at the top of the loop, and comes out of it without completing the circle, it is quite conceivable that for a short space of time the air pressure is reversed. In upside down flying this is always so, the machine obtaining its sustentation from the air pressure on the wings in their inverted position. As a wing section is very inefficient in this position, a machine does not follow a horizontal flight path when upside down, even with the engine running "all out," but pursues a downward sloping path. Machines especially rigged up for trick flying often have a pressure tank, inside which is a short length of flexible tubing weighted at its free end and communicating its other end with the feed pipe running to the engine. We cannot give any exact information regarding the record for upside down flying, as these stunts are not officially recorded as are other world's records, but we believe that flights have been made in the upside down position lasting for three or four minutes. The diameter of a loop depends largely on the type of machine used. A fair average, we think, would be about 300 ft. Your last question is not quite clear, but we take it that you wish to know if it would be possible to reverse the loop—that is to say, loop with the undercarriage pointing towards the centre of the circle instead of away from it. As this would mean that the air pressure on the wings would be reversed, we are inclined to regard it as amongst the impossible.

J. S. (Stoke-on-Trent).—You should apply to the "special Recruiting Officer, Royal Flying Corps, Farnborough."

W. H. P. (Chicago).—There are two State flying schools in Australia—the Commonwealth School at Point Cook and the N.S.W. State School at Richmond, N.S.W.

L. B. (Birmingham).—Both the Anzani and Hispano-Suiza

engines have stationary cylinders. The former engine is of the radial type.

C. H. (Manchester).

Theoretically, 1,000 cu. ft. of hydrogen will lift about 74 lbs. In practice this value is rarely reached, but for convenience it may be assumed that 35,000 cu. ft. will lift 1 ton.

AIRISMS FROM THE FOUR WINDS.

"P.B.'s" new paper *The Imperialist* should have considerable vogue.

NOT A BIT OF IT.—(Zepp. relics are still wanted at the Horse Guards.)

Though that relic you'd add to your store,

Let your ownership cease;

Give it up! Why, in season of war,

Think of keeping the peace?

("The Office Window," *Daily Chronicle*.)

"HEIGHT 5 ft. 7 ins., very dark hair and grey eyes, of medium build, and a large hairy mole on his back." Such is the description—given by his parent at Old Street Police Court on Saturday—of Albert Henry Edwards, aged 16, of Bookham Road, who on August 23rd left home, and his mother is anxious to have news of him and his whereabouts. As his one ambition was to join up with the R.F.C., possibly someone in the Service has come across that large hairy mole, and will notify accordingly.

A GOOD many readers of "FLIGHT" are also philatelists, or have sons or other relations who collect stamps. A chance to acquire a very charming addition to their present holding now offers itself, combined at the same time with helping an admirable war cause. Following the lead of the rest of the Allies, with the exception of Serbia and Roumania, Britain has now followed suit by issuing a special war-stamp through the agency of the National Philatelic War Funds Auction. This has been designed by British stamp collectors, and has been engraved and printed gratuitously by Messrs. Perkins, Bacon and Co., the printers of the first postage stamp ever issued, the historic "Penny Black" English stamp of 1840. These war stamps are being sold at 1d. each, or 6d. the set of six different colours, by the National Philatelic War Fund, 151, Strand, W.C. The proceeds go to the British Red Cross and St. John of Jerusalem.

THE stamps are a work of art in themselves, the design being emblematic of Britain taking up the sword of justice. They have received the approval of King George through his

Philatelic Secretary, who, in accepting the gift of a special die proof of the stamp for the King's collection, writes: "His Majesty is very pleased with the design, and thinks it most appropriate."

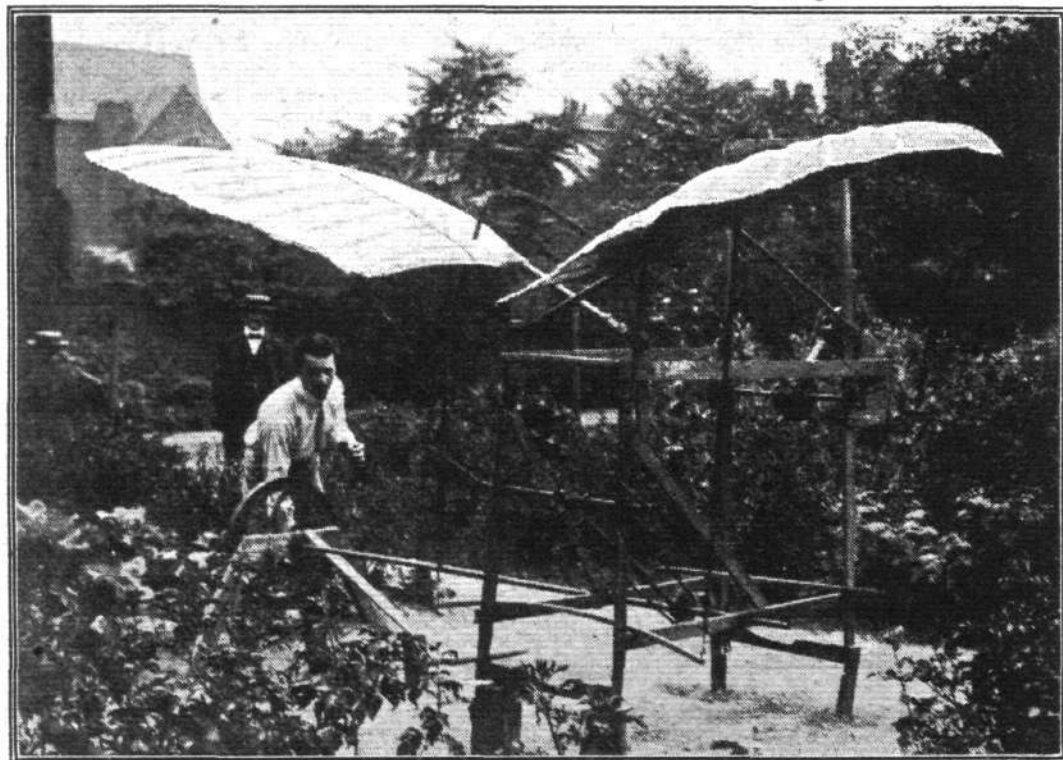
By means of similar philatelic issues by the Allies enormous sums have been collected in farthings and halfpennies in Russia, France, Italy and Belgium for the wounded or for the soldiers' widows and orphans. Moreover, many of these issues are already at a premium, so the acquisition of a set or two may presently prove to be quite a good investment. So hurry up, one and all, and add the nimble 6d. to the fund which is so magnificently helping to allay the sufferings of our men who are crushing the war spirit out of the Hun.

Autres temps, autres mœurs.—One time nothing was too good to say of the Roumanians by their would-be Allies, the Austro-Hungarian and Germanic nations. But now emerges for the first time the real opinions held of this Balkan people by their quondam friends. By way of a start the following from the *Pester Lloyd*, a well-known Budapest journal and a subsidised organ of the Hungarian Government, is not so bad. It is owned by the Pester Lloyd Society, a Jewish financial body of little repute so far as national morals are concerned. In a leading article this paper, discussing Roumania, writes:—

"Can this miserable and inferior State of perjurers and helots, of village tyrants and human beasts, which bears the branded name of Roumania, be more successful than its powerful Allies? We can ask with Alexander Petösi whether we who have fought with lions are to be devoured by vermin? The history, the justice, the necessity that lie in the facts, can reply that a blow of the fist delivered at the right moment by our tried arm, will suffice to sweep back the thieving crew into the filth of their native depravity.

"Practised and tested in the ways of a thief who steals from sleeping persons, the Roumanian Government has begun this war, the most evidently piratical of all wars, for the simple reason that they hoped to overrun a dead Hungary which had been exhausted by battle. We now inform Herr Bratiano that his infamous Press canaille has lied as impu-

Mons. Passat and his hand-operated flapping wing model to which reference was made in "FLIGHT" some weeks ago. Mons. Passat has for a number of years been experimenting quietly with wing-flapping machines, and has now succeeded in getting some quite promising results. In our photograph he is seen at the handle of his latest hand-operated model. Crude as it is, Mons. Passat demonstrated to us recently that he can lift with this model a weight of 80 lbs. This weight, it is true, is only lifted momentarily and not sustained for any prolonged period, but in view of the primitive arrangement even



this is not bad for efficiency. Assuming that a man can develop for a short period one-fifth of a horse-power, this would give a lift, if driven by a petrol engine, of 400 lbs. per h.p., which is a somewhat startling figure. It would appear that the research authorities might not be ill-advised in granting Mons. Passat's method of imitating the flight of a bird a trial under more favourable conditions and with a mechanically improved model.

dently as he himself has lied. If Herr Bratiano thought to find a dead Hungary, he will soon be compelled to believe that he and his corrupt State have had their graves dug in Hungary. Roumania will find that she will be struck to the earth by an enemy who regards her as Hungary's most hated and most despised foe. Of Hungarian earth which now is in convulsion under the feet of the lowest liars and robbers in Europe not one yard will be left to the Roumanian perjurer."

Gott strafe Rumanien truly!

ALTHOUGH the Zeppelins got in first blow by bombing Bucharest, the strength of Roumania in the air will be no contemptible factor in the Balkan operations before long.

VERY great stress is laid on the copyright of the admirable series of articles on the Navy by Alfred Noyes. We are wondering whether the copyright extends—and if it does, what the original inventor of it will have to say—to that delightful old chestnut which he has dished up in new garb as follows: "Followed a yarn of an English aviator, captured by the Germans, who was asked by his captors to take a German observer over one of our seas in his machine. At first he refused, but afterwards, strapping himself in position, consented. The German was armed, but bulky, and his straps were not to be depended on. Somewhere over the North Sea, in the dusk of that sunset, a trawler saw a remarkable sight. An English aviator was looping the loop, for sheer joy apparently, somersault after somersault, like a tumbler pigeon. He kept it up for half an hour. Then a dark bulk dropped from the machine and splashed into the North Sea. Perhaps it was a German, with a revolver in each hand. At any rate, an English aviator arrived on the East Coast an hour or two later, and he complained of feeling lonely."

A ROME report states that a regular service of aeroplanes between Paris and Milan has now been established. Perhaps the wish is father to the statement, although we quite look forward to such *vitesse* methods of travelling when the wreckage of the present war has been sorted out a bit. We hope in the meantime the Germans have managed to get that Berlin-Constantinople air service into good working order for us. It should come handy presently.

THERE are still several portions of the wrecked German airship which were taken away by civilians from Cuffley which the War Office would like to get back. Those who have relics should send them to the Horse Guards, and if they are of no value from a military point of view they will be returned.

THE Lord Mayor, Sir Charles Cheers Wakefield, suggests that a Zeppelin award fund might be inaugurated to which everybody, and especially those within the metropolitan area, might contribute, and out of which a specific award might stand during the period of the war ready for every airman who should bring an enemy airship down. In the event of more than one person participating in the actual bringing down of a Zeppelin on British soil, the award might be divided on a *per capita* basis, as in the case of the £500 to the 353 men who destroyed the L. 15.

ON Monday, September 11th, a lady pupil at a well-known Hendon school took her pilot's certificate in a masterly manner to the delight and admiration of numerous friends and onlookers. Shortly after, as the rumour goes, she gave vent to the following:—

THE LAY OF THE "LADYBIRD."
I am a little "ladybird,"
I've learnt to fly to-day,
And why I've done this stunt of stunts
I really cannot say.
But still I am a "ladybird,"
And now I've got my ticket
I'll walk around old London Town
And on my back I'll stick it.
And then to strafe the Hun I'll fly,
And while I feed his hate,
I'll whisper, as I pass him by,
"Say, is my ticket straight?"

THE enclosures at Hendon Aerodrome look quite smart with the new green-painted iron garden chairs scattered around in all their glory. They are certainly a great improvement on the old wooden "collapsible" ones.

THE U.S. Navy has ordered from France a Paul Schmitt hydro-biplane, trials with which are being carried out at Juvisy under the supervision of a U.S. Naval Attaché. It has two Tellier catamaran floats, and is equipped with a 150 h.p. Salmson engine.

MR. ASQUITH was much interested in a R.F.C. centre during his few days at the Front last week.

AMONG recent contributions to the Lord Mayor for the Lord Kitchener Memorial Fund is £100 from the Horlick's Malted Milk Co.

THE Curtiss Aeroplane Co., of Buffalo, are, so far as we are aware, the first private aircraft firm to instal a modern wind tunnel for experimental research work. The new tunnel is similar to those of the National Physical Laboratory at Teddington.

DR. A. F. ZAHM, of the Curtiss Co., is, we understand, in charge of the tunnel and entire aerodynamic laboratory.

THERE can be no doubt that the establishment of a private laboratory of this kind is a step in the right direction, and the time does not appear very distant when every large firm of aircraft constructors will probably have their own tunnel. Much valuable time will be saved in this manner through doing away with the necessity of sending scale models of wing sections or of complete machines away to a laboratory already pretty full up with Government work.

THE WHITEHEAD AIRCRAFT WORKS



By way of a souvenir of the very happy opening by Sir Charles Wakefield, the Lord Mayor of London, of the Whitehead Aircraft Co.'s new premises, Mr. J. A. Whitehead has got together an extremely interesting little booklet, of which the above clever drawing (reduced) by F. H. Townsend, forms the front cover. The idea of Lord Mayor Wakefield receiving the output of the factory one by one and launching the machines into the air is a happy inspiration. The rest of the pages are made up of photographs of the new premises, the ceremony at the opening, and facsimiles of press notices, &c., with an excellent photographic frontispiece of the Lord Mayor of London, Sheriff Shead, and Mr. J. A. Whitehead.

AFTER the war, when competition will call for still more scientific methods, the manufacturer who has at his disposal a wind tunnel for the experimental determination of the thousand and one problems that crop up in the design of an aeroplane, will be at a decided advantage over a competitor not so equipped.

CONGRATULATIONS, therefore, to the Curtiss firm, for their foresight in being the first to erect a tunnel.

TUITION is now in full swing at the various civilian flying schools which have made arrangements with the W.O. for training of military pilots. It appears that not only are these pupils receiving tuition in practical flying, but that they have opportunities of attending lectures on the theory of the aeroplane.

ON Friday of last week a lecture was given by Mr. A. A. Fletcher, the designer of the successful L. and P. biplane, whose subject was "The Flow of Air around Wing Sections." After the lecture the pupils had an opportunity of asking questions regarding any points that they did not quite understand, and many availed themselves of this, so that altogether a couple of most interesting and highly instructive hours were spent talking "shop."

THE practice of thus letting a certain amount of theory go hand-in-hand with practical instruction is highly commendable, and one from which the flying services in general cannot but benefit.

MR. SMILES had a narrow escape the other day when his engine "gave up the ghost" just as his machine had reached the stage of a loop where she was slightly past the vertical. The altitude at the time was not exactly a "safe" one, but the machine instantly got her nose down, and her fore and aft stability is such that she passed out of the ensuing nose dive just in time. The damage was confined to a couple of burst tyres and a buckled chassis strut.

THE moral is obvious. If you must loop, do it at a reasonable safe altitude.

AFTER various unavoidable delays the new flying school at Cheltenham has now so far progressed that it is expected to make a start about the middle of this month. Three machines—two 50 h.p. and one 60 h.p. Ruffy-Baumann biplanes—are already there, and more are ready to go as soon as required. The aerodrome is well situated, and has an area of about 150 acres, so that the new school should have good prospects of growing to considerable importance.

MR. FANSHAW, formerly of Harrods Stores, who has taken his "ticket" at the Ruffy-Baumann School, will be one of the instructors, and is also, we understand, interested in the company.

SINCE the Gyro motor was first introduced in this country little has been heard of it. It now looks as if visitors to Hendon may have an opportunity of again listening to its healthy bark, as we understand that a new one of 110 h.p. is expected to arrive shortly, when it will be fitted to a Grahame-White scout.

SMILES appears to be as good at diving in water as he is in the air.

Complimentary to Ireland.

HERR KARL VON WIEGAND, in a message to the *New York World*, quotes a Zeppelin commander as saying:—

"I believe that, with the latest Zeppelins being turned out now and which are beginning to be used against England, I could cross to America, providing the meteorological conditions were favourable."

The commander further said that the new Zeppelin can reach every corner of England, Scotland and Ireland; but, adds Herr von Wiegand—

"I learn that Ireland is outside the zone prescribed for Zeppelin attacks; that so far as Zeppelins are concerned Ireland is not regarded as enemy territory."

PITY his efforts at rescuing 10-year old Sydney Howlett were not completely successful. He had to dive into the Silk Stream, Hendon, six times before he found the body, but the boy was then past help.

His gallant conduct is very rightly being brought to the notice of the Royal Humane Society.

TEN YEARS AGO.

Excerpts from the "Auto." ("FLIGHT's" precursor and sister Journal) of September 8th, 1906. "FLIGHT" was founded in 1908.

LEBAUDY DEVELOPMENTS.

Thanks to the enterprise of our contemporary, *Les Sports*, we are able to give below some particulars of the present position of the great Lebaudy airship that is destined ultimately to be stationed for service at the fortress at Verdun. . . . The large aeroplane, a prominent feature of previous constructions, is, as our readers are aware, to be retained, but it has been constructed so that it can be taken to pieces to enable the airship to be readily packed up and transported by train. The machine is to be propelled by a Panhard motor running at a speed of 950 r.p.m. and developing 70 h.p., and weighing 350 kilos. . . . The vessel at present building is destined, as we have already said, to take up its station at Verdun, but before proceeding thither it is intended to employ it in naval manoeuvres at Toulon with a view of securing data regarding the effectiveness of the airship in naval engagements, which, it is anticipated, will prove to be very great, if for no other reason than the readiness with which submarines can be detected from a height above the surface of the water. . . . M. Julliot calculates that these airships of the future will be carrying at least 500 kilos. of shell, weighing from 5 to 50 kilos. each. As regards the possibility of being injured by hostile fire, M. Julliot says that the future airships will be designed to manoeuvre at 800 to 1,000 metres above the ground, and at this height, he points out, they are in no danger from either rifle or shell fire.

ROYAL PATRONAGE FOR THE AERO CLUB.

It is announced that the King of Spain, who takes the keenest possible interest in aeronautics, has consented to become an honorary member of the Aero Club of the United Kingdom. His Majesty is the President of the Royal Aero Club of Spain.

FOR THE KRABBE PRIZE. A LADY'S BALLOON RECORD.

On Saturday and Sunday last, the Hon. Mrs. Harbord and Mr. Frank Butler made what is so far a record run for the Cup offered by Miss Krabbe, of the Aero Club, for the longest aerial journey in Great Britain. The balloon started at ten minutes past eight on Saturday evening, travelling all through the night with a southerly wind and a bright harvest moon. . . . Knowledge of their whereabouts was rather impeded by the presence of a heat fog in the early morning, but at 5.20 they found they were at Brigg; at 6 they crossed the Humber; and finally they descended at Bridlington at 8 o'clock, having in all covered 200 miles in slightly under the 12 hours.

ANOTHER U.S.A. NAVIGABLE BALLOON.

Airship construction on the Santos Dumont lines continues to flourish in the United States, and Major C. J. S. Miller, who has had a big affair of this kind constructed for him, has recently made a successful excursion. The airship is capable of taking up two passengers and Major Miller was accompanied by his wife.

Three Months for False Alarm.

THREE months' imprisonment was the well-merited punishment meted out at Lincoln the other day to Harold Storey, a stoker, for having in a drunken condition entered the Corporation Electricity Works on the night of September 1st, climbed to the roof and blown the Zeppelin buzzer twice. When remonstrated with, he said, "I have won my bet." We fancy he has found the stakes a bit heavier than he bargained for.

Toronto Assists Flying Men.

It is announced from Toronto that the City Council is making grants of 32s. per week each to students from that city preparing for the Royal Flying Corps.

Personals

Casualties.

Second Lieutenant GEOFFREY MAY ALLEN, of the R.F.C., who was killed on September 2nd, was the only son of Mr Gilbert Allen, of Hawkfield, Basingstoke. Born at Rivemar, California, in 1894, he was educated at Blundell's, Tiverton. He enlisted in the Surrey Yeomanry in September, 1914, and served with them as Despatch Rider first in Egypt and afterwards in France. He obtained his commission in the R.F.C. a few months ago.

Second Lieutenant CHARLES HERBERT HILLS, Manchester Regiment, whose death is announced, was the younger son of Colonel E. H. Hills, C.M.G., F.R.S., and of Mrs. Hills, of 1, Campden Hill, W., and a nephew of Major J. W. Hills, M.P. He was born on January 23rd, 1895, and educated at Horris Hill and Eton. After some months spent at the Agricultural College at Wye, he went out in July, 1914, to the Orange River Colony to farm. He fought as a trooper in Botha's Light Horse all through the rebellion. In September, 1915, he returned to England and joined the R.F.C. In April he joined his regiment, the 3rd Manchester Regiment, and at the end of July went out to the Front, where he was attached to another battalion of the Manchester Regiment.

Lieutenant ERIC CRAVEN JOWETT, R.F.C., who died on July 9th, in a German hospital, of wounds received the previous day, aged 24, was the younger son of Mr. and Mrs. Edmund Jowett, of Melbourne, Australia. He was studying at Cambridge when the war broke out, and joined the Northumberland Fusiliers, where he got his commission.

Early in 1915 he joined the R.F.C., in which he was serving when he was wounded. He got his "wings" early in 1915, and became Lieutenant in April, 1916.

Married and to be Married.

An engagement is announced between Captain C. DRURY FULLER, R.F.C., elder son of Mr. and Mrs. Herbert H. Fuller, of 31, Palace Court, and BEATRICE, only daughter of Sir Robert and Lady FULTON, of 7, Sloane Gardens.

The engagement is announced between Flight-Sub-Lieutenant GRAHAM MCHARDY, R.N.A.S., son of Captain Hardy McHardy, R.N., late Chief Constable of Ayrshire, and FRANCES VALENCIA, only daughter of the late Colonel Harry SHULDHAM-LEGH, M.V.O., the Royal Irish Regiment, and Mrs. SHULDHAM-LEGH, of Heather Brae, East Liss, Hants, and great-granddaughter of the late Rev. David Rodney Murray, of Brampton Brian.

The engagement is announced between Lieutenant PHILIP CLAY PENBERTHY, K.S.L.I., attd. R.F.C., eldest son of Mrs. S. E. Penberthy, Canfield House, Hampstead, and ENA BEATRICE, younger daughter of the late G. JOHNSTON-SMITH and Mrs. JOHNSTON-SMITH, of West Heath Mount, Hampstead.

Items.

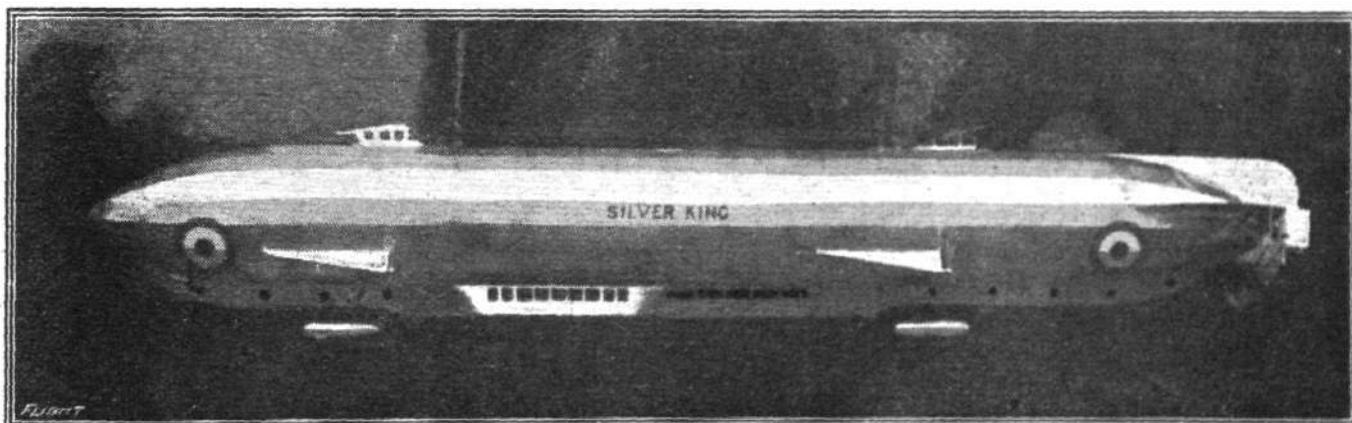
The will of the late Major VICTOR ONNESLEY BARRINGTON-KENNETT, R.F.C., of Cheyne Gardens, Chelsea, killed in a fight with a German aeroplane in France on March 13th, has been proved at £314.

AN ALL-BRITISH ZEPPELIN.

To demonstrate the application of the various dopes, varnishes and paints for dirigibles, Messrs. Thos. Parsons, of Oxford Street, London, W., have on view at their showrooms the excellent model of a rigid airship shown in the accom-

pany by its special application, reduces skin friction to a minimum.

Mr. A. W. Coker, who, we understand, is responsible for the construction of this model, is to be congratulated upon



A realistic model of a rigid airship constructed by Messrs. Thos. Parsons and now on exhibition in their Oxford Street window, to demonstrate the application of their dopes, varnishes, and paints for airships.

panying illustration. The framework is of wood and metal, and the covering is of fabric. The latter is doped and varnished, and is then given a final finish of aluminium paint, which, owing to its very high polish brought about

the accuracy of detail displayed in the "Silver King." It is to be hoped that Parsons' will be supplying large quantities of the dopes, varnishes, paints, &c., for use on real British rigid.

Bucharest and Air Raids.

SOME interesting details as to the precautions taken in Bucharest against air raids is contained in the following message from the *Times* correspondent, who also mentions that the Germans are using a Parseval airship down there. Writing on September 10th, he says: "The authorities have taken all measures to prevent enemy air raids. Visits from airships were expected from the first day of mobilisation, and accordingly very strict order were issued on that day and obeyed willingly by the population. The city is kept in darkness, the few street lamps which are kept alight being painted a dark colour, and strong searchlights sweep the sky. The

people are ordered by the regulations to go into their cellars, but they always remain in their yards and in the streets to watch with curiosity and contempt the vain efforts of the enemy. The first raid was a complete failure. The enemy was driven away by artillery fire without causing any damage. The second raid was made by a Parseval and several aeroplanes, and the enemy succeeded in dropping bombs at several points of the town, but their object of hitting important buildings was not attained, as the bombs fell mostly in the gardens of two small private houses without causing any loss of life. After a violent cannonade the airship had to withdraw, having completely failed in her task."

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

General Headquarters (France), September 5th, 1.20 p.m.

"During September 3rd hostile aircraft showed great activity, and the fighting in the air was continuous. The enemy's aircraft were forced to remain some miles in rear of their own line, and entirely failed to interrupt the work of our machines. On two separate occasions our aeroplanes opened fire on the enemy's troops on the ground. As a result of many combats three hostile machines were brought down and seemed to be wrecked, and many others were driven down in a damaged condition. One of our aeroplanes destroyed a hostile kite balloon. Two of our machines are missing."

General Headquarters, September 5th, 10.35 p.m.

"Yesterday, in spite of the very unfavourable weather conditions, our aeroplanes carried out successful co-operation with our artillery."

General Headquarters, September 6th, 10.55 p.m.

"Yesterday our aeroplanes continued their usual successful co-operation. One of our patrols, consisting of four machines, encountered and drove off a hostile patrol of 13 aeroplanes. One of our machines is missing."

War Office, September 6th.

"*Egypt.*—On the morning of September 4th the Royal Flying Corps carried out a further raid on the enemy's encampment at Mazar. One anti-aircraft gun was put out of action, and a number of bombs were dropped with good effect on camps, supply depôts and camel lines."

War Office, September 7th.

"*Salonica.*—We shot down an enemy aeroplane, which fell in flames in Doiran."

"*Egypt.*—On September 5th two of our aeroplanes raided the Turkish aerodrome and aeroplane repair section at El Arish. Twelve bombs were dropped, with apparently good results."

"Enemy aeroplanes attacked our machines, but did not close, and only opened fire at long range. They ultimately gave up the fight, and our machines returned undamaged."

General Headquarters, September 7th, 10.19 p.m.

"Our artillery replied effectively, and, assisted by aerial operations, successfully dealt with the enemy's batteries."

"Yesterday our machines bombed an important railway junction on the enemy's lines of communication, causing great damage to the station and rolling-stock. One of the enemy's aerodromes was bombed, one machine being destroyed on the ground, and others damaged. Many other points of military importance were bombed. Some good work was done from low altitudes, locating the positions reached by our troops. Three hostile machines were wrecked, and four others were driven down in a damaged condition. Two of our machines are missing."

General Headquarters, September 8th, 10.8 p.m.

"Yesterday artillery fire was directed by one of our aeroplanes on a hostile machine, which landed behind its own lines. The machine was set on fire and destroyed."

"Ten of the enemy's aerodromes were bombed with good effect, and there were many aerial combats. One of the enemy's machines was forced down."

General Headquarters, September 9th, 11.45 p.m.

"Yesterday afternoon many air fights took place. Our aircraft bombed another of the enemy's aerodromes, two hangars and a shed being destroyed. One of our machines is missing."

War Office, September 9th.

"*Egypt.*—On September 8th three of our aeroplanes again raided El Mazar. Of the 20 bombs dropped, 11 were seen to take effect in enemy camps."

General Headquarters, September 10th, 11.10 p.m.

"Yesterday the progress of our attacks was closely followed by our airmen, who at times engaged hostile troops with machine-gun fire."

"In the course of many aerial combats three hostile machines were destroyed and some others driven down damaged."

French.

Paris, September 5th. Afternoon.

"One of our aeroplanes which was attacked by four enemy machines succeeded in freeing itself from its opponents, one of which, subjected to machine-gun fire at very close quarters, crashed to the ground in the Chaumes district."

Paris, September 7th. Afternoon.

"Our air service took an active part in the actions of the past days on the Somme front, watching the movements of the enemy's infantry, carrying out bombardments in the rear of the German lines, and attacking with machine guns troops on the march. Our machines, armed with guns, repeatedly bombarded the enemy's trenches. During the air fights which took place yesterday two machines were brought down by out pilots. One fell in the direction of Gueudecourt, and the other in the neighbourhood of Brie-en-Santerre."

"Five other German machines were forced to descend damaged."

Paris, September 7th. Evening.

"During the night of the 6th, in spite of unfavourable atmospheric conditions, 16 of our bombarding aeroplanes dropped heavy bombs on railway stations, bivouacs and enemy stores at Roisel and Villecourt (Sommecourt), where a big fire was caused."

Paris, September 8th. Evening.

"Yesterday on the Somme front two enemy aeroplanes were brought down in the region of Epenancourt. Another was forced to land after a fight near our lines and was destroyed by artillery fire. Three other enemy machines appear to have been badly hit. The observer in one of them was killed by a machine-gun bullet."

"It is confirmed that on the 5th inst. Lieut. Guynemer brought down his fifteenth enemy aeroplane in the region of Ablaincourt."

"*Salonica.*—An enemy aeroplane was brought down south-west of Lake Doiran. The machine fell in flames in our lines."

Paris, September 9th. Afternoon.

"In spite of the high wind blowing last night, one of our air squadrons dropped 24 bombs on the railway stations at Etain and Conflans, and on the works at Rombach."

Paris, September 10th. Afternoon.

"Yesterday about 11.30 p.m. a German aeroplane dropped four bombs on Belfort. There was no loss of life, and the material damage was unimportant."

"Flight Warrant Officer Baron and Flight Warrant Officer Emmanuelli again bombarded the powder factory at Rottweil on the night of September 9th-10th. They left at 8.50 p.m. and dropped at 10.55 six bombs of 155 mm., which were seen to fall in the region east of the powder factory buildings. Explosions were distinctly heard, and were followed by volumes of white smoke rising from the armament establishments. Without hindrance the aviators returned safe and sound at 12.50 a.m."

Paris, September 10th. Evening.

"On Saturday our aeroplanes were engaged in 40 actions over the enemy lines, in the course of which the German aircraft suffered appreciable losses. On the Somme front Warrant Officer Dorme brought down his ninth aeroplane, which fell at Beaulencourt, south of Bapaume. Four other German machines fell damaged, one in the region of La Maisonnette, the others to the north and east of Peronne. On the Verdun front an enemy aeroplane, which came under machine-gun fire at very short range, crashed to the ground near Dieppe. Another machine was brought down in the German first lines near Vauquois, Argonne."

"During Saturday night one of our squadrons dropped 480 bombs on the stations and enemy depôts in the region of Chaumy. Several machines belonging to this squadron twice flew from their aerodrome to the place where the bombardment was carried out. During the same night 18 of our aeroplanes dropped numerous bombs on the military establishments at Ham and in the region to the south of Peronne. Numerous fires were observed in the bombarded districts."

Paris, September 11th. Afternoon.

"Last night 10 of our aeroplanes dropped 60 bombs of heavy calibre on important military factories south of Bruges. The bombardment, which was carried out from a height of between 400 and 800 metres (1,300 to 2,600 ft.), was very effective. On the same night 104 bombs were dropped on cantonments and ammunition depôts north of Somme-py. Violent explosions were heard. Finally, one of our air squadrons bombarded the barracks and aerodrome of Sarrebourg. Twenty well-aimed bombs of heavy calibre inflicted serious damage."

Russian.

Petrograd, September 9th.

"Our torpedo-boats bombarded the port of Baltjik on the Bulgarian coast and sunk 21 barges, in which the Bulgarians were shipping bread from this port. Enemy seaplanes attacked our torpedo-boats without result."

Petrograd, September 10th.

"Seven aeroplanes flew over the country through which the Kowel-Rojistche railway runs. Our airman, Capt. Kazakoff, engaged two of the enemy machines in successive fights and forced them to beat a retreat to the west. One of them fled with a long trail of smoke streaming out behind it."

"In the Baltic Sea, in the morning of September 9th, enemy hydroplanes carried out an unsuccessful raid on the island of Runo, in the Gulf of Riga. At Riga in the course of the day enemy hydroplanes made their appearance several times over the Irben Strait and engaged in air fights with our aeroplanes. In spite of the enemy's numerical superiority his machines were driven off every time."

"Naval Ensign Safanoff brought down an enemy machine, which fell in the sea."

Italian.

Rome, September 5th.

"On the Middle Isonzo and on the Carso there was only intermittent artillery activity. Our batteries destroyed an enemy kite balloon near Sella (Selo)."

"During the evening of the 3rd, hostile aircraft dropped bombs on Marano, and yesterday on Lucinico, Sdraussina and Gorizia. Three dead and some wounded are reported in the town of Gorizia; the roof of the church of St. John was seriously damaged. A seaplane squadron during the night of the 4th dropped 20 bombs on Venice without doing any damage."

Rome, September 6th.

"Albania.—An Italian aircraft squadron bombed Fieri, headquarters of the enemy command. One of our Farman machines failed to return."

Rome, September 9th.

"Last night, in spite of bad weather, one of our airships reached the Duino-Trieste Railway and dropped 600 kilogrammes of explosives on the line."

Rome, September 11th.

"An Austrian aeroplane dropped bombs on Sondrio, without doing any damage."

Belgian.

Havre, September 11th.

"On the evening of September 6th a Belgian aviator executed a three hours' flight, covering 300 kilometers (187 miles), in darkness, and flying over Brussels, where he dropped proclamations."

"On September 7th another Belgian airman in favourable weather proceeded over Antwerp with the same object. In these two towns the excitement must have been very great. The aviator perceived crowds of people in the public square."

Roumanian.

Bucharest, September 5th.

"Aeroplanes and airships dropped bombs on Bucharest, damaging four houses and injuring two men and one woman."

"Bombs were also dropped on Piatra, in the district of Neamtzu (Northern Rumania), where an old woman was wounded; Ploeshti (between Bucharest and Sinaia); and Constantza, where slight damage was done."

Bucharest, September 8th.

"An attack on Constantza was made by enemy aeroplanes, which dropped bombs, injuring two women and one child."

Bucharest, September 9th.

"Our aeroplanes bombed successfully an enemy camp at Tutrakaa."

German.

Berlin, September 4th.

"On September 2nd and 3rd, in air fights, we shot down in the Somme sector 13, and in Champagne and on the Meuse two, enemy airmen respectively. Capt. Boelke, who placed *hors de combat* his twentieth enemy aeroplane, and Lieuts. Leffers, Eahlbusch and Rosencrantz, greatly distinguished themselves in the recent successes. By anti-aircraft fire in the Somme and Meuse sectors four enemy aeroplanes have been brought down since September 1st."

"On September 2nd French aerial attacks caused insignificant damage in the fortress region of Metz. Five persons were wounded, and some material damage was caused by several bombs dropped on the town of Schwenningen."

Berlin, September 5th.

"Balkans.—German seaplanes bombed Constantza and Russian light sea forces."

"Our airships successfully dropped bombs on Bucharest and the petroleum wells at Ploeshti (midway between Bucharest and Sinaia)."

Berlin, September 6th.

"In air fighting and by anti-aircraft fire three enemy aeroplanes were felled."

"Balkans.—On September 4th seaplanes, acting in co-operation with Bulgarian military and naval forces, successfully dropped bombs on Roumanian batteries and entrenched infantry positions in the Dobrudja, and also on the railway station and oil tanks at Constantza."

Berlin, September 8th.

"On September 6th our naval aeroplanes bombed hostile naval forces off Arensburg, Isle of Oesel. A hostile airman was brought down near Zewel."

"On the night of September 6th one of our naval aeroplanes successfully dropped a large number of bombs on the Russian aerodrome on the Island of Runoe, in the Bay of Riga."

"On September 7th a Russian gunboat bombarded the north coast of Courland without success. She was pursued and bombed by our naval aeroplanes."

Berlin, September 9th.

"At noon on Thursday German seaplanes successfully dropped bombs on the grain silos, oil tanks and the railway station at Constanza, and also on the Russian naval forces in the port. Despite strong hostile gunfire, all our seaplanes returned undamaged."

Berlin, September 10th.

"On the Somme front recently our enemies lost nine aeroplanes in aerial fights and three more by anti-aircraft fire. Capt. Boelcke shot down his twenty-second enemy airman."

Austrian.

Vienna, September 5th.

"During the battle Field Pilot Arigi shot down an enemy battle aeroplane. One of its occupants was killed and the other has been taken prisoner."

Vienna, September 6th.

"On the evening of the 4th inst. one of our naval aeroplane squadrons dropped bombs with good effect on military establishments at Venice and Grado (in the lagoon district west of the mouth of the Isonzo). One aeroplane has not returned."

Bulgarian.

Sofia, September 5th.

"An enemy fleet bombarded the fortifications north of Kavalla, and enemy aeroplanes dropped bombs on the villages of Starovo and Hazuatar, as well as on the Angista Station."

Sofia, September 10th.

"On September 5th two enemy destroyers bombarded Baltjik and Kavarna without causing great damage. They were driven off by bombs from German seaplanes, which also successfully bombed Russian naval units at Constanza, as well as storehouses, petroleum tanks and the railway station. Over 200 bombs were dropped on the harbour, the depôts and the barracks at Mangalia."

R.N.A.S. Raids.

The following announcements have been issued by the Admiralty:—

September 8th.

"An attack was carried out yesterday afternoon by naval aeroplanes on the enemy aerodrome at St. Denis Westrem. A large number of bombs were dropped with good effect. One of our machines failed to return."

"During the course of the same afternoon a naval aeroplane successfully attacked and brought down in flames a hostile kite balloon near Ostend. The attack was carried out under anti-aircraft fire of the heaviest description, but the pilot returned safely."

September 9th.

"An attack was carried out this morning by naval aeroplanes on the enemy's aerodromes at Ghistelle and Handzaeme. A large number of bombs were dropped with satisfactory results. All the machines returned safely."

September 10th.

"An attack was carried out by naval aeroplanes during the afternoon of the 9th inst. on the railway siding and ammunition dump at Lichtervelde. Machines returned safely."

From Other Sources.

The *Morning Post* correspondent, writing from Petrograd on August 21st of the fighting in the marshy ground traversed by the tributaries of the Stokhod, says:—

"Under such circumstances aeroplane activity is plainly suggested, and the Germans have concentrated this arm of their forces in remarkable strength at Kowel. Twice daily, morning and evening, flotillas, working together like fleets at sea, swoop down upon this difficult region, and, enjoying comparative immunity from artillery fire, and therefore flying lower than is customary nowadays at the Front, they do considerable execution. This execution, to no small extent, is due to a new form of aeroplane bomb, which is exceptionally efficient. It is an Austrian production, and it is, I believe, the first contribution of Austrian inventiveness to the machinery of this war. Its main feature is a heavy rubber base, in which a detonator is embedded. But, principally, its effectiveness is due to the fact that the explosion radiates from the centre laterally and not upwards. Anywhere above a man's average stature there is comparative safety, even in close proximity to a bomb. In the space below that height, for a distance of 20 or 30 yards around, death or mutilation is almost certain. The effect of a rain of these new bombs from an aeroplane flotilla upon an area where dug-outs are impossible defies the imagination. During the first days of their use, when the enemy had the advantage of that deadly element in war—surprise—he gained some temporary successes owing to the rain of destructive bombs which he was able to drop upon certain important centres. Now, however, that the element of surprise has evaporated, the Germans' success is markedly decreasing, as is the way with practically all enemy inventions in this war.

"On my way back from the Russian front I visited Minsk, arriving there only a few hours after a bombardment by German aeroplanes. The results were quite ridiculous from the point of view of serious warfare. I examined the places where the bombs exploded. About a score of people had been killed or injured, but only two of them were wearing uniform, and that not the military but the police uniform. A number of women on their way to market in the early morning were among the victims. One poor old market woman, sitting beside her basket of wares, lost both of her lower limbs. A girl, aged 16, was killed. The material effect was merely to provide work for plasterers and glaziers. This is not war, but it amuses the Germans. One must congratulate them on succeeding in dropping every bomb into an open street. Not a single building suffered damage beyond defacement of plastered fronts and wholesale smashing of glass.

"This particular bombardment was the German form of reprisal for Russian aviators' activity at Baranowitchi a few days before. Baranowitchi is a strategic point of prime significance for a certain part of the front, and is therefore a legitimate objective for all forms of warlike operations. It is the pivot of the German front, contains the immense stores of the German forward base, and is a thoroughly fortified centre. Minsk is none of these things, so that it would appear that the Germans, having been attacked by Russian aeroplanes in a purely war centre, look around for the nearest convenient township and make an air raid on it in retaliation and in order to provide news for the German press. At any rate, no other war purpose can be served by such raids upon peaceful townships. The Russians the same night heavily avenged this reckless killing and wounding of women and civilians. Several of their big 'Dreadnought' aeroplanes again visited Baranowitchi and dropped a quarter of a ton of bombs on military stores at the station and in the artillery magazines. Thirteen took effect, and terrific explosions and large columns of flame indicated the extent of the damage done."

Mr. Edmund Candler, writing to the *Times* from Mesopotamia on August 25th, states:—

"On the Tigris front military operations during the last month, excepting the usual sniping and continual harassing of the enemy with artillery fire, have been confined mainly to air raids and encounters with hostile aircraft. On August 12th our machines brought down an enemy Fokker in an encounter on the river bank opposite Magasis Fort, near Kut. Our guns opened on a stranded machine and destroyed it.

"At night on August 14th our aeroplanes, flying very low, dropped bombs on the enemy's sheds and the bridge at Shumran. Owing to the dust and uncertain light it was impossible to estimate the exact damage, but it is significant

that for many days after the event our reconnaissances were unmolested."

The *Times* special correspondent at the British Headquarters in France, in a despatch dated August 31st, writes:—

"After the rain the air has been clear, and aeroplanes have been very active this afternoon. At the part of the front where I was we had over 30 kite balloons up, and the air above was full of aeroplanes and of the black puffs of shrapnel smoke from German guns. At one time I counted 15 of our machines so close together that the field of my glasses would take them nearly all in at once, circling and weaving in and out like a flight of rooks. Around and among them all the time the shrapnel burst, and it seemed amazing that none was hit. What their particular business was I do not know; but the superb indifference with which they came and went, passed and repassed, while the air about them was dotted with black smoke-balls till it looked like a pin-cushion studded thick with black-headed pins, was magnificent to watch."

Mr. W. Beach Thomas in a despatch to the *Daily Mail* on the same day notes:—

"Each day I see more of his (the enemy's) kite balloons and rather more of his aircraft, but the sense of inferiority lies heavy on his infantry. They write home sarcastic comments on their own aircraft and grim accounts of our guns."

A Reuter message from Athens on September 1st regarding the arrival of the Allies' warships notes that there are some seaplanes with the Fleet.

In a despatch from the Press Camp, France, on September 2nd Reuter's Special Correspondent says:—

"A steady increase in the heavy artillery of the enemy has been noticeable during the past week, and, notwithstanding the bad weather, German airmen have been much more lively, although they only venture over our lines in strong squadrons, and only then very occasionally. Their attempt to re-establish observation is proving pretty expensive to them. The total "bag" accounted for yesterday over the Anglo-French lines amounted to 19 machines."

An Exchange message from Cairo on September 4th states:—

"Yesterday morning an Australian flying squadron carried out a successful reconnaissance in Sinai. One airman performed a most gallant feat. He flew back some eighty miles in order to pick up a comrade who had been compelled to descend owing to engine trouble, and succeeded in bringing him back in safety despite the fire of the enemy."

According to a Reuter message describing the capture of Mrogoro in East Africa, the booty taken included a 4.2 naval gun ingeniously mounted on a locomotive turntable to serve as an anti-aircraft weapon. It is also noted that our aeroplanes have left their mark on the railway buildings.

Mr. G. J. Stevens, writing to the *Daily Telegraph* from Athens on September 3rd, says that he had received the following information dated September 1st from his correspondent with the Serbians at Sorovitch:—

"The German field telephone and aviation services, which arrived here two days ago, left again to-day. They went back in the direction of Florina, carrying with them all their apparatus and paraphernalia."

Mr. W. Beech Thomas, in a despatch to the *Daily Mail* on September 3rd, regarding the new "push" from the Delville Wood, says:—

"The perspective of this new fighting is beyond the reach of the senses, even for an onlooker. For myself, as I was dunned, almost in my ear, by the bark of some heavy howitzers . . . I looked up and found the air populous with our aeroplanes. Fourteen of them in a flock were heading for the enemy's lines. They too were part of the battle; and before many minutes were doubtless telling our gunners across the towering distances at just what corner of what map-square such and such German guns were located."

The *Echo Belge* reports that "On the morning of August 25th a squadron of Allied aeroplanes bombarded the neighbourhood of Ghent. At 8.20 a.m. the first bombs were dropped, and the bombardment continued until 8.55. Suddenly a big explosion was heard. It lasted 15 secs., and shook all the windows in the town. Doubtless one of the ammunition depôts was blown up. Five minutes later a second explosion occurred of similar violence. It is rumoured that the damage done and the number of victims are very great."

"The journal further learns that in the course of this attack a gunpowder depôt at Meirelbeke was blown up, and a Zeppelin which was stationed at St. Denis Westrem was seriously damaged."

The *Telgraaf* on September 3rd reported from the frontier that Allied airmen executed a raid over Belgium. At 7 o'clock on the previous evening three aeroplanes were seen above Zeebrugge. They were heavily fired at, but none of them was hit. Some aeroplanes were also observed flying over the sea.

Reports from Rome state that one of the Italian naval airships, during the night of September 3rd, effectively bombed the military works at Lussin-Piccolo, Istria. Care was taken to avoid hitting inhabited places. The airship returned unharmed to her base.

The correspondent of the *Berliner Tageblatt*, writing from the Somme area, says:—

"The French keep the occupying troops down with shells until the moment of advance, and employ at the moment of attack by assault airmen with machine guns at the rear of the enemy."

The *Times* correspondent at Bucharest, on September 4th, telegraphs:—

"Last night Bucharest was for the second time attacked by hostile aeroplanes, which dropped bombs from 2 until 5 o'clock this morning. They were vigorously bombarded by the Roumanian special artillery."

"I understand that the American Government will protest against the indiscriminate throwing of bombs on Bucharest from aeroplanes."

"The injuries suffered by civilians in a previous raid have provoked a demand for reprisals."

Two days later he sent the following message:—

"A Zeppelin attacked Bucharest last night for the third time. Bombs were thrown, but little damage was caused to the surrounding houses. No serious loss is reported up to the present."

Mr. G. Ward Price, writing to the *Daily Telegraph* from Salonica on September 6th regarding the march of Col. Christodoulos, the Greek commander, to Kavalla, says:—

"Aeroplanes attacked him at Petelino, and he lost 15 men that way."

Mr. A. Beaumont, writing to the *Daily Telegraph* from Milan on September 8th, states:—

"The official bulletin last night reported another air raid on Venice, during which bombs were thrown, one falling in front of the Basilica of St. Mark and another on the British hospital, fortunately without doing any serious damage. This is a continuation of the Austrian reply to the capture of Gorizia, a worthy imitation of German vandalism in bombarding the cathedral of Rheims. The new outrage excites universal indignation in Italy. The general Press comment is that Austria is thereby, if possible, placing herself more and more outside the pale of civilised nations. Happily the beautiful and historic monument of St. Mark's escaped unscathed. But the civilised world will judge that this is warfare as understood by the Habsburg dynasty and the Austro-Hungarian Empire. Bombs cannot fall by mistake on the Piazzo of San Marco, which is too far from any military establishment to supply any kind of excuse. It is simply another evidence of the barbarian impulse to destroy everything beautiful and sacred. St. Mark's is all the world over a symbol of religion and the arts of peace, and the Austrians, by seeking to destroy it with bombs from the sky, only prove to mankind what is their true mission."



Educating M.P.s.

DOUBTLESS Members of Parliament, both Lords and Commons, will welcome the little pamphlet, "Elementary Facts about Aircraft," which Lord Montagu has prepared for their special benefit by "Private Circulation" only. Aviation has been a popular subject for debate in recent sessions, but the technical terms bandied about by the "experts" must have been quite bewildering to the ordinary member who takes but a passing interest in aircraft. Realising this, Lord Montagu has set down in simple, very simple, language just what these terms mean, and explains the elementary principles of various types of aircraft.

A Double Fatality.

AT an inquest held at Cowes on September 8th on Ralph and Allen Lashmar, brothers, who were killed in an aeroplane accident at Northwood, I.W., on September 7th, it was stated that the Government inspectors who had examined the machine since were satisfied that the mishap was not due to faulty material or construction. The wires and struts were all intact after the accident. A local farmer, who was returning from market, said when the machine was over him something "went pop," the wings dropped and the machine began to fall. A verdict was returned of "Accidental Death," no blame attaching to anyone.

Fatal Accident in France to British Pilot.

THE *Matin*, on September 8th, published the following message from Bethune: "A British pilot flying from the front landed in the marshes near Lambres in order to effect repairs. Shortly after he rose again his engine broke down, and the machine turned over and crashed to the ground. The pilot was so seriously injured that he succumbed to his injuries the following day."

An Airship Fatality.

WHILE assisting to start an airship, Charles E. Goff slipped and was caught by the aft propeller, which was turning 800 r.p.m. A verdict of "Accidental Death" was returned at the inquest on September 11th.

Disastrous Looping in Japan.

THE Japanese *Aeronautical World* records that on June 6th Capt. Oka, of the Imperial Flying Corps, accompanied by Capt. Harada, attempted to loop the loop on a new machine at the Tokorozawa aerodrome. They were unsuccessful in their first attempt, and on a second try the machine fell

into a clump of trees and both pilot and passenger were severely injured.

Aeroplane on a Crowd.

WHILE flying at Miyakonojo, Miyazako, Japan, on June 10th, an aeroplane piloted by Mr. Iyeyasu Nakazawa, fell from 600 ft. on to the crowd, killing two men and injuring four. The pilot was severely injured.

An Airship in California.

AN airship, of the non-rigid type, 124 feet long and 30 feet in diameter, with a capacity of 80,000 cubic feet, is being used in Pasadena, Cal., by Messrs. Russell and Waterman, the craft being piloted by Mr. J. M. O'Connell. It carries a crew of eight men, and a speed of 30 m.p.h. is said to have been attained. A single propeller driven by a 60 h.p. Hall Scott motor, is used.

More Fables from Germany.

THE following semi-official message was sent out from Berlin on September 4th regarding the raid on September 2nd:—

"The fortress of London, the City, and the northern and north-western district were repeatedly bombed for four hours. Numerous conflagrations and collapses proved the success of the attack. Other airships attacked factories and fortifications at Norwich, where strong explosions and fires were caused. Searchlight batteries and industrial works in Oxford, Harwich, Boston, and on the Humber were bombed, and numerous fires caused there. In Yarmouth the gasworks and aerodrome were attacked, and a battery was silenced. In Nottingham the military works and factories were attacked. A fire caused here was clearly visible at a distance of 40 miles."

"During their attacks the airships were subjected to heavy artillery attacks, especially when over London. Apart from the batteries on land they were also fired on by airmen who rose in pursuit. Although light was thrown on the airships by light rockets and searchlights (one airship simultaneously came under the rays of not less than 18 searchlights) all the attacks upon them were unsuccessful."

In this connection it is officially stated that the damage done is exactly what was reported in the British communiqué, and that there were no conflagrations of any importance and no explosions.

New Zeppelins on Trial.

MESSAGES from Romanshorn, Lake Constance, state that on September 4th a Zeppelin of a new type, 790 ft. long and fitted with four gondolas, was tried over the lake.

The Commander of the "L. 21."

It has now been published in Germany that the commander of the "L. 21" brought down at Cuffley, was Capt. Wilhelm Schramm, who hailed from Hamelin, in Prussia, well known through Browning's poem of the "Pied Piper." Incidentally it may be noted that it was in Transylvania, now being "redeemed" by Roumania, that the children decoyed into the hillside emerged into the light of day. Capt. Schramm had received the Iron Cross of the First Class for taking part in previous raids on England, Nancy and Dunkirk. He was one of the early workers with Majors Gross and Sperling.

Another Zeppelin Captain Killed.

BESIDES recording the death of Capt. Schramm, of the "L. 21," it is announced in the German Press that Capt. Walther Wolff, an airship commander, "has died for his Fatherland." This may be connected with the second airship which was so heavily damaged and was seen sinking in the North Sea. A message from Rome states that information had been received from Switzerland that two super-Zeppelins were recently lost. Good; let the thing go on.

And Another Zeppelin Reported Damaged.

INFORMATION received by the *Bevlingsketidende* from Bergen last week was to the effect that steamers arriving there from the North Sea reported having seen a Zeppelin, apparently with damaged steering gear, going east. It was also reported at The Hague from the Belgian frontier that one of the Zeppelins returning from England had to land suddenly at Mons. Several members of the crew were suffering from shrapnel wounds. The airship was taken to pieces by the German troops, and the parts sent by train to Germany.

Dutch Fire on a Zeppelin.

ACCORDING to the *Times* correspondent, writing from Amsterdam on September 8th, a Zeppelin flew over the island of Schiermonnikoog, on the north coast of Holland, that morning at a very low elevation. It was fired upon by the guns stationed there. One shot was thought to have hit the airship near the rudder, but this does not seem likely, for the Zeppelin, which was enveloped in clouds of smoke, rose to a greater height and disappeared in a north-easterly direction.

Two Fire Stories from Germany.

Two strange stories regarding fires at aircraft works in Germany have come through Copenhagen recently. According to the first the Adlerhof Works, near Berlin, are said to have been destroyed, and 10 complete aeroplanes are reported to have been burnt up and a great number damaged. Another report, via Rotterdam, puts the number destroyed at 22, and adds that the fire is believed to have had a criminal origin.

The second story is to the effect that a large airship wharf near Frankfurt has been burnt to the ground, together with four large Zeppelins and 15 aeroplanes. In this connection it may be recalled that the Schütte-Lanz works are at Rheinau, Baden, about 40 miles from Frankfurt-on-Main.



The Navarro Aircraft Co.

A NEW recruit to the ranks of the industry is the Navarro Aircraft Co., who have taken works at Burton-on-Trent, and are open to undertake the building of aircraft either complete or parts. They also have a department for the production of small metal fittings, &c. Their London Office is at 86, Gray's Inn Road, Holborn, W.C.

For Aircraft Fittings.

THOSE who are in the market for small aircraft fittings, such as washers, wire strainers, ferrules, thimbles, &c., should make a note of the fact that Messrs. Whiteman and Moss, of 15, Bateman Street, Dean Street, W., who have specialised in this department for several years, offer immediate delivery of such fittings in the usual sizes. That the fittings are up to the Government standard is shown by the fact that the firm are contractors to the Admiralty and the War Office.

UNAFFILIATED MODEL CLUBS DIARY AND REPORTS.

Club reports of chief work done are published monthly. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

The Ascham Model Ae.C. (36, PHIPSON ROAD, SPARKHILL, BIRMINGHAM).

Monthly Report.—Not as much work as was anticipated was put in last month owing to high winds, rain, &c., but the flying meetings held on Billesley Common, although small, came off comparatively well. Aug. 5th: S. Whitley was out with his r.o.g. twin-pusher Blériot-Canard monoplane, putting up excellent flights at a good altitude, landing well. R. Field made several good flights with his r.o.g. twin-pusher monoplane, as did S. Mitchell with his twin-pusher and tractor monoplane, the latter getting off very quickly. Aug. 12th: S. Mitchell and H. R. Simmons out with twin-pushers; the former executed three loops during a flight with the latter's machine. Aug. 19th: Rain severely hampered the proceedings, consequently few members turned up. However, although it was late evening, S. Whitley, H. R. Simmons, and S. Mitchell put up several good flights, the machines behaving very well in the choppy wind. During the month work has been continued in the workshop, where Mr. Whitley, senior, has been engaged in building a one-and-a-half plane and a tractor monoplane with sectional planes. S. Mitchell made good progress with his twin pusher r.o.g. biplane. The membership is at present rather low, members having joined the Colours. Those wishing to join this club should apply to the hon. secretary at the above address. Since writing these lines we hear that S. Whitley has joined the R.F.C.



COMPANY MATTERS.

The Stock Exchange Committee has given permission for dealings in Aircraft Manufacturing Co. 7 per cent. cumulative preference shares after the allotment letters have been issued.

NEW COMPANY REGISTERED.

CAMBRIDGE SCHOOL OF FLYING AND AERODROME CO., LTD.—Capital £5,000, in £1 shares. First directors, F. Ruffy, W. F. Hardesty, G. F. Joseph, and H. Franklin.



IMPORTS AND EXPORTS, 1915-1916.

AEROPLANES, airships, balloons, and parts thereof (not shown separately before 1910). For 1910 and 1911 figures, see "FLIGHT" for January 25th, 1912; for 1912 and 1913, see "FLIGHT" for January 17th, 1914; for 1914, see "FLIGHT" for January 15th, 1915; and for 1915, see "FLIGHT" for January 13th, 1916:—

	Imports.		Exports.		Re-Exportation.	
	1915.	1916.	1915.	1916.	1915.	1916.
January ...	20,382	1,509	435	6,399	13,706	—
February ...	380	6,444	138	30,693	18,823	—
March ...	280	3,388	7,218	17,872	5,090	7
April ...	2,189	3,383	23,986	22,608	275	3,783
May ...	178	1,986	12,530	26,165	8,250	300
June ...	5,469	4,986	3,730	59,287	2,400	—
July ...	1,240	2,072	13,372	12,932	—	—
August ...	664	2,583	36,276	13,555	247	420
	30,782	26,351	97,685	180,511	48,791	4,510



Aeronautical Patents Published.

Applied for in 1915.

Published August 31st, 1916.

- 13,591. G. J. MONEY. Indication mark for assisting aircraft to alight by night, and means of communication whilst in flight.
 - 14,469. M. O. ILLINGWORTH. Lanterns for aircraft.
 - 14,578. SUNBEAM MOTOR CAR CO. AND L. COATALEN. Aeroplane driving mechanism.
 - 14,601. J. S. PARKER. Travelling conveyers for use with kites, &c.
- Published September 14th, 1916.
- 8,070. J. E. CHANDLER. Sighting devices for use on aircraft.
 - 14,670. E. M. KNOWLES. Propellers for aeroplanes, &c.

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